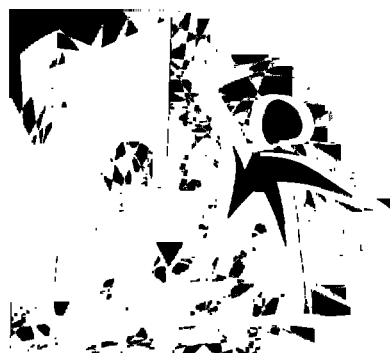


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Family-Controlled Child Labor in Sub-Saharan Africa — A Survey of Research

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Abstract

This is a review of research on child labor in Sub-Saharan Africa. It focuses on child labor taking place in the household and controlled by relatives of the children since this is the most extensive form of child labor in African countries. It is also the form of child labor that is the most difficult one to appraise from a normative point of view. Subtle trade-offs between schooling, leisure and poverty across generations may be involved. Hence, the paper emphasises welfare economics issues pertaining of child labor.

Another feature of this study is that it seeks to survey not only the economic research, but also research from other social sciences, particularly social anthropology. The social anthropological studies deal with an aspect of child labor so far less adequately dealt with by economists - the relationship between their labor and their socialization; how certain types of labor and education may give rise to different preferences to the children as adults.

A major, but tentative conclusion of this survey is that the relationship between poverty and child labor is less close than normally assumed in the policy debate.

Family-Controlled Child Labor in Sub-Saharan Africa—A Survey of Research

Jens Christopher Andvig*

Introduction

Child labor in Sub-Saharan Africa is the most extensive in the world. This paper surveys recent research on the subject. It makes clear that at least 95 percent of this child labor in Africa takes place in private households. The paper focuses on situations where the children are controlled by their own family, a form of child labor that often is not considered a major welfare issue at all.

Drawing on established welfare economics, the paper shows, nevertheless, that there are a number of situations where there are reasons for concern. The most important is whether children's work duties interfere with their schooling. The major statistical analyses of child labor in Sub-Saharan Africa show clearly how important different characteristics of the household are in determining why and how much the children work: the presence or absence of father and mother, whether the mother or father is earning income for the household, and other factors. Before going into the welfare issues involved, however, the paper sets forth what is known about the children's labor activities; that constitutes the main part of the paper.

This study shows that increasing poverty may not cause the children to labor more, but may instead force the poorest into idleness or into increasing efforts to maintain the household infrastructure because of lack of complementary inputs.

*A number of people have had an impact on the paper. I would first of all like to acknowledge the support given by the Social Protection Unit of the World Bank, in particular all the assistance given by Bona Kim and the important guidelines for the work given by Zafiris Tzannatos. Deborah Styles edited the manuscript. Other World Bank staff members who contributed are K. Basu, S. Canagarajah, B. Fredriksen, B. Grimsrud, and A. Kielland. Outside comments have come from Thomas Weisner, Department of Anthropology, UCLA; Erling Barth, Institute of Social Research, Oslo; and the participants in the "Jon Elster" seminar at the University of Oslo. My regular employer, the Norwegian Institute of International Affairs, granted me time off to complete the paper. Although the subject was not in their normal field of study, several colleagues there also made useful inputs, including M. Heiberg, P. B. Maurseth, and A. Melchior.

A prominent feature of the paper is that it draws on research from both social anthropology and economics, thereby discovering points of difference and agreement. In economic models, if fathers withdraw from households and reduce their share of income transferred, an economic household model may predict that the children, including the sons, will work more. A socialization model of social anthropology may predict that the *withdrawing will influence the sons' role perceptions and make them work less.

The major conclusion of the paper is somewhat negative. Despite the research already done, it still is not really clear whether this form of child labor is a major issue, for three reasons:

1. No empirical research has yet been published that shows with certainty how children's labor is distributed across and within households. It is thus not clear, for example, whether African Cinderellas constitute a large group, or whether labor is evenly spread.
2. In the empirical studies the criteria for a child participating in the labor market are so weakly set that they have not shown whether or how much labor interferes with schooling.
3. The macroeconomic development in many African countries is so uncertain that it is not yet clear whether any interference with schooling will prove harmful to the child.

A follow-up paper will analyze the smaller but potentially more harmful issue of children who are set loose from their families and work to survive.

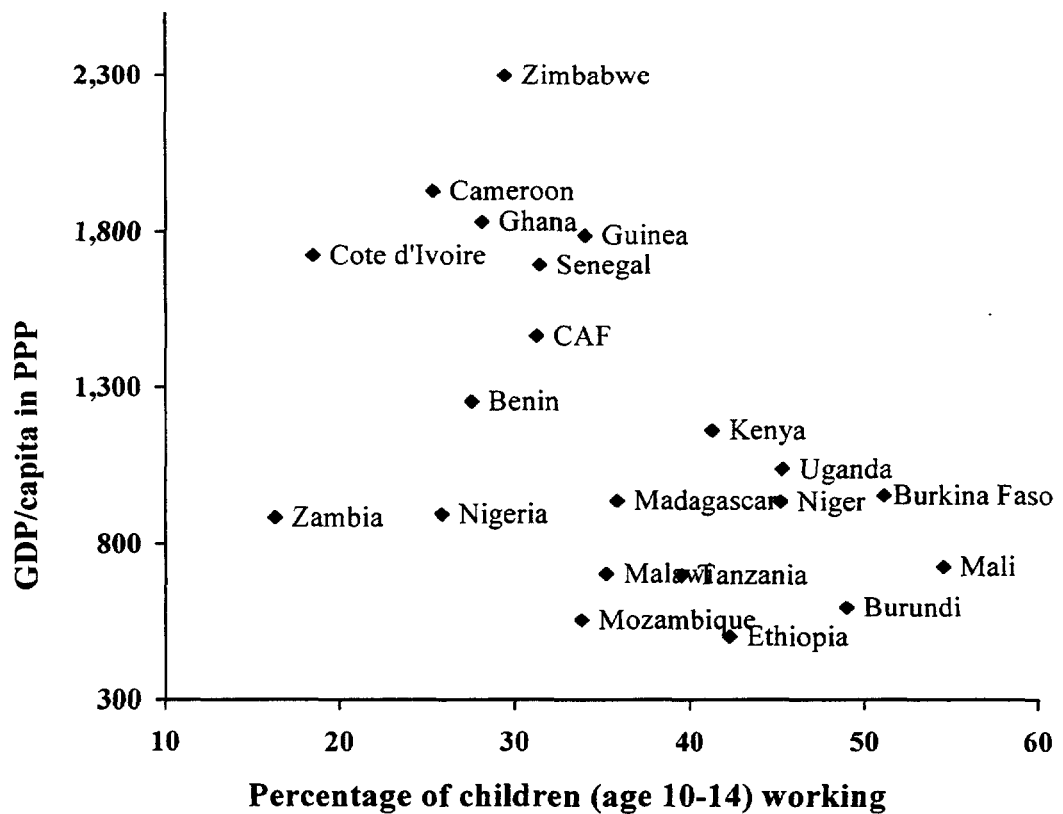
Sub-Saharan Africa has a higher rate of child labor than the other major geographical regions; according to ILO (Ashagrie 1998, 4) statistics, 41 percent of children between 5 and 14 years of age are registered as working, almost twice the Asian rate. The ILO believes 80 million children in that age group are working in Africa and that both the number and the proportion are increasing.

Poverty appears to be the major explanation for child labor. Africa is the poorest continent. Within Africa the poorer regions have overall a higher incidence of child labor.

Countries where a large share of children work are on average poor. Apparently the poorer the country, the more child labor exists. This confirms the frequently held notion that child labor is mainly explained by poverty. As Basu (1999) visualizes it, sending out their children is the family's last resort for earning income. As soon as the family's income increases, the children are withdrawn from the labor force.

The sample of African countries for which the ILO has child labor statistics, shown in figure 1, makes a positive correlation between the child labor participation rates and poverty

Figure 1. Child labor in Africa, 1995



Source: World Development Indicators database; World Bank 1995; ILO 1998.

less clear:¹ countries at the same level of national income have widely different child labor participation rates, and countries with quite similar participation rates may have widely different national income levels.

Why is poverty not such an important explanation of child labor in Sub-Saharan Africa? One possibility is, of course, that the data are extremely noisy. The clue might also be sought in another direction, however. The bulk of the child labor registered in Africa is not wage labor, but labor performed in the household where the children live.

To a large extent, the participation rate at the national level will reflect the share of total economic activities performed in the households. On average, that share is decreasing as national income is increasing, but not uniformly. Figure 2 relates child participation rates to the share of the population in the rural areas, since statistics on household production as such are not available.

The picture painted by figure 2 is closer to the heart of the matter. Countries with a large, rural household sector are on average poor, but at given income levels the household sector accounts for more child labor than any other ways that economic activities are organized.

¹ ILO statistics on child labor are the only ones that cover enough countries to be used. Those statistics are, however, based on a definition of child labor that is based on so little information that the outcome is likely to be very misleading. The families are asked whether their children have been working at least one hour during the past week on any GDP-increasing activity. The number of children who have done so is then considered to be part of the country's labor stock. Their number is divided by the total number of children to produce the *child labor participation rate*. This paper uses that expression when referring to the ILO numbers and the World Bank studies that apply the same definition. The definition is acceptable for studies of formal-sector labor markets, but for labor in the household sector it becomes too weak at the same time as it defines away much work that from the point of view of children (and the household) is the same as that included. Until more appropriate statistics are available, the ILO measurements are likely to remain a starting point for the analysis, as they will also be for this paper. However, questions may be raised about the sampling procedures applied, so the statistics applied in this section must be regarded as tentative suggestions of questions to be raised.

Figure 2. Child labor and ruralization, selected African countries



An important reason for both the high incidence of child labor and the feeling that it is not such a serious problem in Sub-Saharan Africa is that a large share of all economic activities takes place in households. Since most African child labor is performed in the household, harmful labor conditions in sweatshops are not the only problem in the child labor issue: intra-household allocation must also be considered. What determines the children's labor activities? What are the effects of these activities on the household's economic situation? What are the consequences for the children themselves? Is children's share of labor activities in some sense too large or, for that matter, too small? If so, in which sense?

This paper will survey the research that focuses on situations where the children have close ties to a family to which it identifies. That in all likelihood constitutes the major part of child labor in African countries. The survey includes not only the empirical studies of child labor in Sub-Saharan Africa, but also the general welfare economic analyses of child labor in households.

A later study will discuss situations where children are responsible for their own economic survival while they are still children. This is a smaller, but more serious problem. Like what happens to household models in general when the issue of divorce arises, the focus must shift to intra-family bargaining.

Moreover, research must address problems that are not traditional for economists, problems of changing family structures that may have greater economic impact on African families than on families elsewhere because of the economic significance of household production. In particular, the effects on this form of child labor of changing family structures are likely to be significant and should be explored. The same applies to the death of parents or other guardians. In an African context a reasonable question to ask is whether there are any systematic differences between patrilineal and matrilineal family systems. In areas of land scarcity are the children sent away at too an early age in order to somehow fend for themselves, making it easier for the parents to keep control of the land?² Is the allocation of labor tasks among the children fair across gender and age groups?

This paper will focus on the children's welfare, but from a paternalist and modernization point of view. Going to school may make a large fraction of children more unhappy and frustrated than most normal work experiences might do, reducing their self-respect and future work capabilities in the process. From the child's point of view, choosing between school and work will in many instances mean abandoning school. Nevertheless, this study considers schooling a given as a precondition for preparing children for working and living in a modern market economy. Such a transformation is also considered desirable or at least unavoidable.

Most Africans, including their governments, accept and want this transformation. Discussion of child labor within Africa implicitly accepts these values, and this paper will do so, too. Their acceptance allows consideration of child labor as harmful for the children's welfare in the long run if it strongly interferes with their schooling, even though the children themselves might feel happy to be released from the series of defeats or drudgery that school

² Child labor is an issue sometimes associated with economic conflicts between generations inside the household sector that have turned violent. That generational conflict has been observed in the Rwanda massacre (Andre and Platteau 1996) and in Sierra Leone.

may represent to some. A somewhat optimistic view of the future economic development of the African countries is necessary.

Choice in most cases does not mean either school or work, but rather which mix of school and work should be chosen. The welfare issue raised is mainly whether the blend chosen tends to contain too much work.

A large part of the final answer to that question for Sub-Saharan Africa, and hence the normative evaluation of child labor, hinges not so much on micro considerations of the type of work performed, but on the whole macroeconomic development in the region. Despite this, the paper will not indulge in speculation about the macroeconomic future, but will focus on these micro considerations.

The Research

Very little research addresses children's work directly. This is true even in social anthropology, a field that has studied African communities systematically for more than 70 years. Precise, empirically based knowledge is in short supply, even about some of the most straightforward issues such as the distribution of labor time between boys and girls in the different countries or in the different social groups and ecological habitats. This necessitates a certain amount of guessing or conjecture supported by pieces of information tangential to the major aims of the research that has given rise to them.³

Nevertheless, valuable empirical research has been taking place over the years. There are basically two different sources of information. Some studies are based on large household surveys, mostly analyzed by economists and demographers; others are from scattered anthropological work, often based on information gained through participatory observation. Most of the exploration of child labor based on household surveys is fairly recent, while most of the anthropological work dates to the 1970s and 1980s. The older works, influenced by techniques from developmental psychology, focused more on child-rearing practices and problems. In addition there is a smaller literature focused on the extreme groups of hunter-

³ The author is educated as an economist and cannot claim extensive knowledge of social anthropology, so he might have missed several important contributions made by social anthropologists. In particular, it proved impossible to go through the major classic monographs, looking for the possible light they might shed on child labor issues.

gatherer societies, which, despite the small number of people involved, may tell some interesting stories.

These two approaches have their obvious weaknesses and strengths. The major problem of the anthropological work is the question of how representative each case study is. It is difficult to be sure whether the results of a particular study apply even to the next village. The problem with the large quantitative surveys is questions relating to the quality of the underlying data. Have the surveyors done their work honestly? Are the respondents answering honestly? After all, in many areas of Africa economic information is often consciously hidden from neighbors and spouses. Why be honest in public surveys? So far they have also been too summary about what children actually do when they allocate their time. Ideally the two approaches should be systematically combined, for example, by having a few social anthropologists explore the situation in a few of the surveyed areas. So far, this has apparently not been done in child labor research in Africa. This paper does so only informally, questioning some of the survey results by looking at anthropological literature and vice versa.⁴

Quantitative studies of child labor in Sub-Saharan Africa are quite recent. The ILO has carried out and published two surveys in Africa, one in Ghana, the other in Senegal. Although these surveys were intended to focus on child labor, this work appears less useful than expected. The report from the surveys (ILO 1996) is difficult for outsiders to understand, so this study does not report much from it. Although the drift of these numbers appears reasonable, their reliability is even more difficult to judge. At the time of writing the ILO is directing several valuable statistical surveys of child labor in different African countries implemented by these countries' own central bureaus of statistics. UNDP has recently made the most detailed one yet made, with data from Benin, but the reports have not been available to this author.⁵

4 Purists from both disciplines are, of course likely to remain skeptical. A social anthropologist might question the value of studying statistical fantasies that exist only in terms of constructed averages; an economist will question the value of research that does not follow its routines of logical control, research that may tell more about the whims of the researcher than about its subject matter.

5 A few results are reported in Kielland (1999).

The information about child labor participation in the living standard surveys initiated by the World Bank is naturally less detailed because it is a part of surveys that mainly address other issues. However, the basic information is gained through surveys that are in principle replicable and where the sampling methods are transparent, so the results reached may be representative. In addition these data make it easier to link child labor to other economic and demographic variables.

The studies also contain some data about time allocation; the most detailed published are for Tanzania. However, the measuring errors for the children's time allocation appear to be so large that when they are reported in the following, this should be kept in mind. This survey is biased toward economics, but has tried to locate the most important contributions in social anthropology and demography.

It is naïve to compare the results from economics and social anthropology directly without to some degree outlining the major theories and methods through which they are reached. This paper will focus on the two social science disciplines of economics and anthropology. The economics part will first outline the major analytical models considered relevant, with their observational implications, then will discuss the applied econometric work.

Social anthropology seems less amenable to any neat division into analytical models and empirical research. Here there are too many scattered and widely different theoretical approaches to make it fruitful to outline them all before discussing the empirical works, which in some cases do not present any explicit theory at all.

This is, however, not intended to be a survey of the methodological problems involved in the research. It will be issue oriented but will attempt to give a "feeling" of some of the research problems involved.

What is child's work or labor? The traditional definition, which this paper will follow, in the policy debates about child labor distinguishes between a mainly descriptive "work" and a mainly normative "labor", though there have been some recent attempts to get rid of the normative one by Boyden and others.

One possible non-paternalistic approach will then to apply the child's own subjective feelings in order to distinguish between work and play or work and labor. In the context of

the household it is not easy to say what the child himself or herself considers work, however. A small girl's taking care of a baby might mean that stressful conflict solving for her becomes mixed with joyful play. A spoilt child may consider all work as labor while a heavily exploited child may have adjusted to the situation and consider it all as normal work.

Child work constitutes those activities performed by a child that contribute positively either to the output of a family or a firm or to the family's public goods and that the child considers as involving some sacrifice. Output means not only output in the national accounting sense, but also the necessary input to the family's consumption and maintenance of its infrastructure. Hence, water collection for both humans and animals is defined as work, though the first does not contribute to national output in the traditional national accounting sense.

Child labor means work performed by children who are too young for the task in the sense that by performing it they unduly reduce their present economic welfare or their future income earning capabilities, either by shrinking their future external choice sets or by reducing their own future individual productive capabilities.

This definition is not meant to be operational, but to clarify. Determination of whether some piece of work is labor presupposes knowledge of psychological and economic processes that no one even under ideal circumstances can possess before many years have passed, and maybe not even then.⁶ In practice studies must rely on registration of children's activities that they make before the age of 15 and sort out what counts as being sufficiently goal-directed to count as work. Then some rough estimates must be made of which of those should be considered harmful to the child or not.

Family-controlled work means that the children belong to a family that it identifies with. If the children work as wage laborers and thus are monitored by non-family members, they are still family-controlled if they share any cash they earn, and have the right to return to the family at any time in case of need. For example, Agarwal et al. (1994) describe a group

⁶ Child labor is defined here following the language conventions in the child labor debate, but not in its ordinary meaning. It is difficult to stick to artificial use of language, however. Hence, I will sometimes use "child work" and "child labor" to mean the same and use the expression "harmful" work or labor instead of "labor."

of girls in Ghana—the “kayayoos”—who do transport work in the markets in Accra carrying the goods on their heads. They are mostly from rural areas and work far away from home. Nevertheless, they share their income, the family may locate them, and they may return home at any time, and expect to do so when they have saved enough for eventually getting married back home. Their labor is family-controlled even though they sleep and eat far away from home. Normally, however, family-controlled child work is performed by children who live in the family to which they belong, and their work will be monitored from there.⁷

Household Models

More than 90 percent of all child labor in Africa is managed inside a family context. It is then quite appropriate that so-called household models became the analytical starting point for economists’ discussions of African child labor. These models are quite general and may apply to child labor anywhere. To put it simply, in these models a family utility function is maximized under an income and/or production function restraint and a time budget constraint. One of the advantages of these models is their great flexibility in this respect. As pointed out by Strauss and Thomas (1995), they had immediate intellectual roots in Japanese agricultural economics in the 1950s and Becker’s work of the 1960s. The primary problem in an agricultural setting was to study the behavior of farmers when production and consumption were joined in the same decision-making unit, when there were markets for some goods and services while others were missing and the goods and services had to be internally supplied.

Becker’s work of the 1960s (summarized in Becker 1981) had modern consumption units in mind, but he built into his models three features that made them interesting in the context of a developing country. (1) Consumption needed inputs of goods and services to reach the utility function. (2) Households reared children who also needed inputs to develop. In particular, they had to decide how much education to invest in them. (3) A family consisted of several decision makers, making it necessary to make clear when it would behave as a single decision-making unit. In particular, the interaction between children and

⁷ In fact, one of the major reasons why children labor mostly at home is precisely the comparative advantage for their households in monitoring and teaching work.

parents and between spouses needed to be specified. These are all issues that are even more important in developing countries than in the somewhat old-fashioned American household Becker had in mind because, unlike households in the industrialized world, in most poor societies households are performing the largest share of regular production activities in terms of employment.

Children's doing hard work in the household was thus not a problem that Becker had in mind when he discussed the quality of children. It was rather the expense of formal schooling and the investment of the adult's time. Rosenzweig (1978; Rosenzweig and Evenson, 1977) and Makhija (1977) made early contributions dealing with child labor in an analytical way in the context of household models, both coming from the Chicago tradition. They were, however, mainly using Indian data. As the number of household data from developing countries increased, household models were applied to analyze them, and have to a large extent been developed through this research. One consequence is that a strong interaction has taken place between these models' development, the data collection procedures, and the econometric estimation problems.

Rosenzweig (1981) gave an early estimation of a household model with child labor that included an analytical exploration of a household model. He mainly studied a model with labor markets in all directions: for men, women, boys, and girls, each with different wage rates. Therefore he did not specify their work internal to the household, but he did single out the children's time spent at school. Since wage changes would generate both income and substitution effects with different signs, the model could not in general predict, for example, whether an increase in the wage rates for children would cause the child labor in the market to increase. Nevertheless, since the substitution effect was positive, and the income from the children's wage labor constituted a small share of family income, on the basis of the model one would expect that an increase in the wage rate for children would increase the supply of child labor.

Among the empirical estimates from Rosenzweig's sample from rural India that may be useful for comparison with the household research from African samples, the children supplied 17 percent of total family time in the labor markets, but their income constituted only 6 percent of family income. A 10 percent increase in adult female wages would reduce

the girls' labor supply by 7–8 percent, but decrease the attendance rate at school for girls by 1 percent and for boys by 3.6–4.6 percent. An increase of fathers' wages increases all children's school attendance rates by more than 7 percent and reduces the boys' labor participation rate by 9 percent, but has almost no effect on the girls' labor supply.⁸

This Rosenzweig specification may be applicable to some areas of Sub-Saharan Africa too, but as he suggested, different household models are likely to be more appropriate. In particular, Rosenzweig himself believed that missing markets and surplus of land may make an autarky model more relevant, that is a model where the household produces and consumes all its own goods and services. This probably goes too far, but there are other options to adapt the basic household model to African institutional structures :

1. Male adults are the only suppliers in the labor market (or suppliers of cash crop), while the female adults and the children produce the internally supplied consumer goods. The children divide their time between household labor, education, and leisure, the women between household work and leisure. The income and home-made products are pooled, and the household centrally managed—the defining characteristic of the household models. In a variation, the boys and adult men may work on the cash crops, girls and women supply work for the non-cash goods.
2. Male and female adults are suppliers in the labor market, but the women divide their time between cash and home production—production where output is reconsumed in the family—where men are not involved. The children divide their time between schooling and home production. All groups have some leisure.
3. The households are managed by adult females who divide their time between the labor (or cash crop) market—eventually as paid work for their husbands—home production, and leisure. The children do as in the preceding example. The income of the husband that is transferred to the household is considered exogenous. This is a way to maintain the simple structure of the household decision making and at the

⁸ These results on schooling are somewhat difficult to interpret. Maybe it is the mother's task to monitor whether the children attend school, and the boys have a greater propensity to shirk. Since the model does not specify the household labor performed by the children, the strong effects on the girl's labor supply are likely to be caused by their substituting the mother's housework. Note that while these gender-related outcomes

same time recognize some of the distinctive aspects of much African family life. Note that in this case an economic theory of the household may be easily combined by sociological mechanisms at the macro level. For example, the spread of particular versions of “modernization” norms through some kind of contagion mechanism may cause adult men to transfer less income to their women and children. For example, there are indications of a negative shift in such income transfers in areas of Kenya. If so, the women have to respond to it by changing their own and their children’s supply of labor.

The choice of model obviously will have consequences for what will happen with the allocation of children’s time if family income changes. For example, situation 3, an increase in female and male cash income (if transferred to the household), will have very different consequences for schooling. While an increase in male (transferred) income should have a pure income effect and increase schooling and leisure for the children, the increase of female income will also have a substitution effect that is likely to increase the home productivity of the children’s labor, particularly for girls, that might mitigate the income effect. In situation 2 an increase in male wages may contribute to a lower female supply in the market, which may reduce the amount of child labor in the household, while the increase of female wages will not have this effect as long as males contribute little to home production.⁹ In the situation when boys’ and men’s labor are close substitutes, an increase in male labor supply should release boys’ time for schooling, adding to the income effect, while only the income effect would work for the girls.

So far, to my knowledge, these gender aspects of the household organization are not introduced explicitly in the theoretical explorations of household production—, but they have become parts of several empirical investigations. Balsvik (1995,1996) and Kevane (1998), who do not explore child labor, is an exception.

are interesting, they are difficult to explain on the basis of this model, where all income is pooled and where the only explicit differences between them are their wage rates. The rest is buried in the common utility function.

9 The statements in the text are, of course, strong and will, inter alia, need assumptions about the complementarity and substitutability of the different types of labor in their own and, eventually, the cash crop production. Note that it is not only a question of technical aspects of the production, but also a question about which tasks the different genders and age groups are allowed to do, the prevalent social norms.

Ainsworth's Analysis of Child Fostering

Ainsworth (1996) presents an empirical analysis of the West African institution of child fostering based on data from Cote d'Ivoire.¹⁰ In this institution parents are sending their children from their originating households to some more or less closely related ones where they spend their time and do their consumption. It is a rather important institution. In Cote d'Ivoire more than 20 percent of the children live away from home. In other African countries the rate is even higher, close to 35 percent in Liberia, for example (Serra, 1996).

Like so many other transactions where families are involved, economic, rule-abiding, and emotional motives are intertwined. Ainsworth outlines several, including conceivable intergenerational effects: adults who foster-in children to have an income option later in life, people who foster-out children in order to give them educational possibilities. In her theoretical formulation, however, she focuses on a short-run household production model that is, in fact, a variation of household model 3. The focus is on the child labor aspect of child fostering. The household maximizes its utility over market goods, home goods, and women's leisure and its own children, who may or may not be present. Since it is a short-run model, the stock of our children is given. The home goods are produced with market goods, adult females, and the children's labor power. The household's own and fostered-in children are perfect substitutes, but only the adult females earn cash income. No market for child labor exists, so children can only be brought in through fostering, that is the children have to be brought into the household, fed, and clothed at fixed cost, the same for the household's own and fostered-in children. The men's income is exogenous as in model 3.¹¹

Since this model's demand for child labor is a net demand for fostered-in children whose leisure time is not included in the household welfare function, but is mainly constrained through the costs of bringing in children compared with their productivity in the production of home goods, the effects of increased income become quite different from the number 3 model. An increase in both male and female wage income will now increase the

¹⁰ The article is based on a Ph.D. thesis published in 1990.

¹¹ Ainsworth herself emphasizes the child labor aspect, but not quite as much as this paper does. However, it is correct to include Ainsworth's analysis of child fostering in a survey of child labor in Africa because of the light it sheds on the children's labor situation in the many African countries where the children

demand for child labor. In the case of male income, this result follows when the demand for home goods is normal. For women a decrease of labor input should reinforce the effect. Note that this is contrary to what is commonly expected—that a decrease in poverty should decrease the demand for child labor. If home goods are normal goods and children's leisure (or schooling) is not included in the family welfare function, child labor will not decrease as income rises.

An increase in the number of adult males in the household will also increase the demand for child labor (in the sense of fostered-in children), while the increase in the number of females should have an ambiguous effect, since in this case the supply of labor in home production increases at the same time as home production and income increase.¹²

The empirical analysis is based on the 1985 Cote d'Ivoire Living Standard Survey (CILSS), one of the two first of its kind.¹³ The sample included 1,599 households, among which were 3,110 children. More children register as fostered-in than out, 24.3 percent and 18.6 percent respectively. The major reason for the difference is likely to be an under-registration of children fostered-out.¹⁴

The only asymmetry between fostering-in and fostering-out decisions in the theoretical model is that the household's welfare function only includes its own children, not the fostered-in. This is in fact a very strong assumption, since if true, around 20 percent of the children in some African countries live in households where the heads of household do

so frequently have to migrate across households. In addition the analysis is skillfully done. Her presentation shows how much information it is possible to wrest out of the household surveys initiated by the World Bank.

12 In her own reading of the model, Ainsworth claims that an increase in the number of adults only implies an increase in the demand for home goods, and therefore an increase for child labor. However, the asymmetric role of men and women in her household model should imply that their impact on the demand for child labor should be different. If girls' and women's labor are complementary in most of the observed variations of household members, more adult females should also have unambiguous effects on the demand for child labor, however.

13 Similar household surveys have now been made in several developing countries. They are characterized by an exceptionally broad range of questions, making it feasible to study empirically many of the interactions that take place in economies based on a large household sector. A brief history and analytical presentation is perhaps most accessible in Deaton (1997).

14 According to her definition, a foster child had to be away from *both* parents in order to count as a foster child. When one of the parents was away, the child could not be registered, because no information was available about whether the child was staying with that parent or not. This was unfortunate, since it excluded the families that may compose that subgroup of households having the highest propensity to foster-out. It is also in the nature of the household survey method that measurement errors for people present are likely to be less than for the members who are away.

not care about them. The empirical analysis showed that the factors operating are so different that a separate estimation at each side of the fostering “market” was warranted. The explanation of that may well be this unobservable asymmetry in the household’s own and foster children included in the household’s preferences.

In any case, Ainsworth estimates each side of the fostering “market” separately. A so-called two-limit tobit model method is applied to the fostering-out since the dependent variable, which must be an integer, is bounded from both above and below. In fostering-in the dependent variable is only bounded from below and a regular tobit. In both cases maximum likelihood methods are used. The main results are as follows:

1. Own children and foster children of the same gender are clear substitutes. If a household has a girl of its own in the age group 7–14, it is less likely to foster-in a girl and, naturally, more likely to foster-out. The same applies with boys, but the effects are somewhat weaker. The cross-effects were small, except that when a household had a girl its tendency to foster-in a boy was almost as strongly reduced as when it had a boy.¹⁵
2. An increased number of both female and male adults in a household will increase the demand for child labor—fostering-in increases and fostering-out decreases for children of both genders. The effect is as strong for women as for men.¹⁶
3. Income had a positive and significant effect on fostering-in of both girls and boys, but only a weak nonsignificant, negative effect for fostering-out for boys, and even a positive one for girls. It is interesting to note that the income-elasticity for fostering-in in urban areas was about 0.9 for girls, while it was 1.1 in rural areas, but somewhat lower for boys. That is, to the degree the foster institution simulates a labor market for domestic child labor, an increase in income will not reduce it, since it

15 Since the stock of children has a negative impact on both the fostering-in and fostering-out decisions, in the longer run, if the equations hold, a population growth that increases the share of children in the age group 7–14 should reduce the extent of child fostering.

16 This is according to Ainsworth’s but contrary to this author’s expectations. The effect might even be somewhat stronger for women. This observation appears to indicate that the relationship between girls and women portrays a need by each woman to rule a certain number of girls. Or, put somewhat differently, child labor in African households needs adult women as managers.

increases the demand without significantly reducing the supply at the income level of Cote d'Ivoire in 1985.

4. When dummy variables for five ethnic groups were introduced, none was significant except the fostering-out for Mande boys, who were less likely to be fostered-out.

5. The cost of rearing children is, unlike the theoretical model, not specified as an independent variable in the estimation of either the fostering-in or fostering-out equation, but the negative shift of fostering-in for the Abidjan area may have been caused by high child-keeping costs.

In addition to the estimation results, Ainsworth's article contains descriptive statistics of considerable interest. While they are only implicit in her model, Cinderella effects are clear in table 1.

Table 1. Percent of own and fostered-in children's (7-14) participation in different activities

Activity	Girls		Boys	
	<i>Own child</i>	<i>Foster child</i>	<i>Own child</i>	<i>Foster child</i>
Housework	65.9	78.8	36.9	56.1
Family farm	17.7	23.8	17.7	26.3
Job	14.9	14.4	10.6	19.2
School enrollment	67.9	50.6	81.4	71.1

Source: Ainsworth (1996, table 1 -2).

Summing up, Ainsworth specifies a household model to explain child fostering. Table 1 shows that fostering is, indeed, correlated with child labor. A large part of her research has dealt with the problem of how to make the model amenable to econometric estimation and identify the separate economic forces at work. While education and better consumption baskets for the children may be one motive for sending children away, Ainsworth found these forces weak. Rather it was motives associated with children's labor that could be clearly identified.

An Old Variation of Household Modeling: Chayanov and African Child Labor

The Russian economist A. V. Chayanov—writing around 1920—was an important source of inspiration for the household models sketched in the preceding.¹⁷ He developed his theories on the basis of a mass of statistics relating to peasants' households, and he believed it was possible to uncover economic laws of motion for their type of economic adjustments that were different from the ones that applied for capitalist firms in a market environment. The specific predictions that can be made will often be almost the opposite ones.

The basic ideas Chayanov developed are the following. Each farm has a target income or production per consuming unit. When that level is reached, the activity in the household slackens. The target income (consumption basket) is easier to reach if the fraction of producers divided by the total number of family members is high. Some rather obvious implications for the demand for child labor are: the demand for child labor must hinge on the demographic composition of the family. When the number of small children or the number of elderly in the family increases, the demand for child labor increases. When the number of adults, or family income increases, the demand for children's work will decrease.

Translated to stylized African conditions, if adult males are kept outside home production, and the home production behaved as a peasant *a la* Chayanov, an increased number of males will imply more child labor, while more adult women will imply less. Since fostering is now possible, increased demand for child labor may also be translated to a fostering-in of children in age groups with a production/consumption ratio above target and a fostering-out of the younger children who have a production/consumption ratio below the target level, if any household felt it could more easily reach the target income by changing the family size rather than changing the amount of leisure. This kind of behavior presupposes either strong forces toward equality at the village level or a kind of conception of what the sustainable rate of production is in the longer run for the household's plots.

Serra (1996) attempts to translate these ideas into an explicit model of child fostering in West Africa. She assumes, however, that there exists technical complementarity between

¹⁷ A selection of his writings is translated and reissued in Chayanov (1966). A collection of articles was published in Russian in 1927, a treatise in German in 1923.

child labor and adult labor; in the preceding analysis this paper implicitly had assumed independence. In Serra's understanding of the marginal productivity of children's labor there are two components, the direct effects and the indirect positive effect of children's labor on the productivity of adult work. This means that the marginal productivity of the child efforts increases when the number of working adults increases. This implies that a household will import (or export) working children until the per capita consumption in the household is equal to the marginal productivity of the children's labor. The lower the average consumption, the easier it may be to satisfy this condition.¹⁸

Hence, if the number of young nonproducing children and old nonproducing adults increases, the household will tend to foster-in working children. The same will apply to adult males if they are not included as working members of the household. An increase in the number of working adults will have two opposite effects: the marginal activity of the child labor will increase, but so might the average rate of consumption. An increase in the number of working children will decrease the marginal productivity of child labor and increase the average rate of consumption. Hence the stock of working children will have a negative effect on fostering-in decisions. The area of application for this model is the circulation of working children across poor households in a nonmarket setting.

Some of these implications fit rather well with Ainsworth's estimation results. However, it is difficult to reconcile Serra's ideas with Ainsworth's high Engel-elasticity for fostering-in children in the rural areas. This, together with the theoretical implausibility of some of the arguments for target average consumption rates, gives reason for some skepticism.¹⁹

Implicit Household Modeling—Some Recent Empirical Work

18 Note how close this reasoning is to the standard migration theories of Arthur Lewis and Harris-Todaro. This is not so surprising since a theory of child fostering necessarily implies a theory of child migration.

19 These ideas will come up in a different setting when the paper considers the evidence brought in to social anthropology, or rather comparative psychology, by Munroe (1984). Note that the consumption used in Basu and Van (1998) is closely affiliated with the Chayanov approach as a supply mechanism of child labor: restricted role of maximization and supply only above a threshold average income level.

Child fostering is a neighboring phenomenon to child labor, but still is not child labor. Several of the living standard surveys, including a few African ones, contain data about children's activities above the age of seven, however, including their work activities. They have recently been used in empirical studies of child labor in an African context in a more direct manner by World Bank economists. The research has evidently been built around the short-run household models, but the links are more indirect since the structural models have not been specified.

Instead the researchers have gone rather straight to the reduced forms and included a number of exogenous characteristics of the children and of the household and a fairly large number of variables of potential policy relevance, such as distance to school. The econometric problems have been quite substantial and have, naturally, received much of the attention. Two works have applied data from Cote d'Ivoire, Grootaert (1998) and Coulombe (1998), both mainly based on the 1988 Cote d'Ivoire Living Standards Survey (CILSS), but also going back to the 1985 survey, the one Ainsworth used. Another study from West Africa is Canagarajah and Coulombe (1998) on Ghana. World Bank researchers have also made a study of the more urbanized Zambia (Nielsen, 1998) and the less urbanized Tanzania (Mason and Khandker, 1998).

Let us first look at the studies from Cote d'Ivoire and some of their descriptive statistics. Their definitions of the variables, which have to be based on the ones applied when constructing the interviews for the living standard survey (CILSS), are important to understanding their results. A child is defined as having participated in the labor force if he or she has worked at least one hour in the past seven days in any economic activity, that is any activity that contributes to the GDP in the country. This definition is reasonable when dealing with an organized labor market where even one hour's participation presupposes a major commitment. In the context where the children may, for example, drop in and out of work on the fields at any moment, the definition is in a sense too weak and strongly exposed to measurement errors.

Coulombe checked for this and found the variable more telling than feared: 95 percent of the working children worked more than 10 hours a week, and two-thirds were laboring at least 30 hours a week.

At the same time the definition of child labor is too narrow, particularly when seen from a child welfare point of view, in excluding household work. It excludes even such demanding tasks as fetching water and firewood.²⁰ One of the advantages of the living standard surveys is that the children's household activities are also registered and may be dealt with, as they are in these recent child labor analyses.

Rates of schooling participation are measured in the same way as labor participation. Since these involve considerable expense on the part of the household, measurement errors here should be expected to be smaller. The descriptive statistics in Grootaert show that child labor is, indeed, significant in Cote d'Ivoire (see table 2). The participation rates are high, particularly in rural areas.

Table 2. School and work: Mutually exclusive categories, ages 7–14 Percent

Location	School only	School and work	Work only	Home care or idling^a
Urban	39.3	36.6	3.7	20.3
Rural	21.3	28.4	27.9	22.4
All	28.5	31.7	18.3	21.5

Source: Grootaert (1998, table 8).

a. Grootaert adds the housework and the "do-nothing" categories since he believes the last is a measurement error. I agree that the error might be larger than for some other categories. Nevertheless idling, particularly for boys, is also a significant problem, particularly in very poor families, so this category is not empty.

Furthermore, the children's workloads are fairly heavy. Grootaert gives a portrait of the full-time child workers, of which almost 90 percent live in the countryside. Including homework, the girls work 54.1 hours a week and the boys 48.4 hours. The average age is fairly high, however, because Grootaert includes children of age 17. Even including the group of children who both work and go to school, the average child's work efforts were high. In 1988 the average number of working hours per week for the children working in Cote d'Ivoire was 30.7 hours, constituting about 10 percent of total labor supply of the

²⁰ Here the statistical practice goes further than warranted from the GDP restraint. According to this, fetching water for livestock, but not for the family, should be included. In practice none is.

country. In addition, the children spent 12.1 hours on home care,²¹ that is, almost 43 hours of work altogether in a week on average. Coulombe (1998) got 46.6 hours for the same country with the same data. When household work was included, girls were found to be working five hours more than boys per week.

Another interesting descriptive statistic that appears in Grootaert is the complex association between poverty and child labor across households and over time. From 1985 to 1988 was a period of declining income in Cote d'Ivoire due to a combination of worsening terms of trade and a structural adjustment program (see table 3). Overall, child labor in Cote d'Ivoire appears to be associated with poverty.

Grootaert interprets these statistics to describe a "strong link between child labor and poverty and the fact that the poor increased the supply of child labor the most in the 1985–88 period, in response to the economic recession" (Grootaert 1998, 23–24). While in several ways

Table 3. Children's labor (age 7–14) in Cote d'Ivoire, 1985 and 1988, according to poverty level

	1985		1988	
	Participation rate	Yearly hours	Participation rate	Yearly hours
Very poor	30.6	1,268	43.9	1,713
Mid-poor	26.8	956	21.9	1,475
Not poor	14.4	920	10.2	1,619
All	18.5	1,001	19.3	1,598

Source: Grootaert (1998).

convincing, his statistics give reason for doubt on closer examination. In Abidjan there was almost no supply of child labor in any poverty class both before and after the income shock. Abidjan should, presumably, be one of the regions with the most severe income shock.²² The impression is further weakened on consideration of the association between income and the children's labor participation for the year 1988 only (see table 4).

21 In a developed country such as Denmark, the children do housework 1–2 hours a week, 2.17 hours for girls, 0.28 for boys. Bonke (1998).

22 The number of observations here appears to be small.

Table 4. School and work among children aged 7–14 in Côte d’Ivoire, by income quintiles Percent of per capita household income

Quintiles	School only	School and work	Work only	Home care and idling
1st	20.6	23.0	30.9	25.5
2nd	21.7	25.5	27.9	24.9
3rd	27.4	31.5	21.3	19.8
4th	24.7	38.5	17.1	19.8
5th	38.1	32.2	8.9	14.8
All	25.3	30.2	22.8	21.7

Source: Grootaert (1998, table 9).

One way to interpret this table is to add the first two columns. These totals show how the fraction of children who go to school rises rather steadily with income, from 43.6 percent in the lowest to 76.3 percent in the highest income group. Not going to school defines the group of children who only work or do home care/idling; their share decreases with income. That is, poverty, but not child labor, may explain why the children are not going to school. In fact, the share of children who both work and go to school increases with income.

How to explain that? One possibility worth exploring is that the poorest may have fewer resources by which they may gainfully employ their school-age children (less good land), but more demanding infrastructure (longer way to carry water), so there will be a tendency for their children to do either home care or idling. In other words, up to a certain income level the increased marginal productivity of employing children will work against the increased demand for schooling to make the demand for child labor rather flat or maybe even rising with income until the higher income groups’ demand for more intensive education dominates.

However, so much is going on at the same time in households that it is possible to tell too many stories on the basis of descriptive statistics. In order to disentangle some of the forces at work and to check whether they really are likely to be systematic factors that determine the extent of child labor in the households, an application of proper (interpretive) statistical methods is necessary. Here the battery of methods developed by econometricians also gives a wide scope for choice, a choice often made difficult because of the very same development of methods that has also made researchers aware of the many pitfalls.

Grootaert's approach is basically a reduced form approach in which a great number of exogenous variables are introduced to explain his few endogenous ones, which comprise the probabilities of any given child to belong to the different groups described in table 4. The exogenous variables include a number of child characteristics such as gender and age, household characteristics such as gender, age of household head and education, and some environmental descriptors such as rural or urban location, distance to school, and so on. Grootaert does not explore the significance of the foster relationship for the allocation of children's work and schooling, however, although that relation does not seem to have changed much from Ainsworth's to his sample.²³

No attempt is made to derive these probabilities from any economic theory of the households. Nevertheless, the estimation procedure Grootaert applies, a so-called sequential probit model that is carefully crafted to avoid some important statistical inference pitfalls, assumes a couple of important theoretical ideas about the typical household's decision process:

—Altruistic parents start their decision sequence by considering the best alternative for the child, that is the alternative “go to school and not work.” It is an either-or choice, so the rest of the alternatives are lumped together, hence a probit estimation of those probabilities on the basis of all observations in the sample is the appropriate procedure.

—At the next decision point, the children who are in this group are thrown out of the sample, and the next best alternative, the (conditional) probability of “both going to school and work” is considered against all the remaining alternatives. That probability is then estimated.

—The procedure is repeated and the probability of “only working” is estimated. The remainder are then doing home care. For each stage the value of the exogenous impact

23 From Grootaert's 1988 data (table 5) it may look as if the extent of fostering was about the same as in 1985: 26.6 percent of the children (ages 0–17) were living away from home. In his estimation model Grootaert does not distinguish between the family's own children and foster children and allocates both groups to the household heads where they are located. In the table of estimated parameters he calls them “father” and “mother.”

parameters is estimated.²⁴ A realistic aspect of Grootaert's statistical design is that he separates the rural and urban children and estimates the parameters separately for each group.

Despite the fact that Grootaert notes that fewer than 2 percent of the children work for wages, he considers the estimation procedures to catch the supply curve of child labor, while it is obvious that the observations realized are a mix of supply and demand where the bulk of both the demand and the supply concerns the household's own children.

Many of the results are nevertheless interesting, but puzzling. For example, the employment of the "mother" has a strong positive and statistically significant effect for whether a child living in an urban area will go to school and not work, while it will have a strong negative (but not statistically significant) effect if that child is a girl.²⁵ It will increase the probability of the child's "only working" (not significant) while it decreases (not significant) the probability of the girls' "only working." In rural areas the effect of mother's employment is small (and insignificant) on "only schooling," while it increases both the probabilities of children's "only working" (not significant) and the girls' "only working" (significant).

An increase in the mother's education has weak negative (insignificant) effects on "only schooling" for children in urban areas, but positive (insignificant) for urban girls. It has negative effects on "only working" (significant) for children in general while strong positive (and significant) effects for girls' "only working." In rural areas more education for the mother works positively (weak, but significant) for children's "only schooling," while it has a stronger (still significant) and negative effect on girls' "only schooling." The effects on the probability of only working are weak and insignificant. When interpreting these results one should remember that "only working" in the context means "not only home care or idling."

24 As indicated in the text, the realistic binary choice variable here should be "schooling or not schooling." In the absence of a labor market, work does not have this binary character, but is more like a continuous variable. If, because of all the zero observations, one should nevertheless consider it binary, there should be two sequences. Schooling, then work and not-working; not-schooling and then working or not-working, where home care should be included in work.

25 Grootaert also analyzes the data with a method that he considers less satisfying from an econometric point of view, a multinomial logit framework. Using this method the negative impact on girls' education of mothers' employment becomes statistically significant. The only really new results that are reached by the multinomial logit method are that now distance to school has significant negative impact on

These results may indicate real policy dilemmas. There appears to be a short-term negative effect of women's accumulation of human capital in the countryside at the expense of their daughters. Furthermore, women in urban areas who are employed tend to have children with less "schooling only," but in this case the effect is likely to be on boys.

In general the characteristics of the "father" appear to have overall weaker impact. Fathers' education has weak, but significantly positive impact on "schooling only" and

schooling only and positive effect on working only. If the distance increases to above five kilometers, this effect subsides. Coulombe does not supply any explanation, but the effect of boarding schools is a likely candidate.

negative (insignificant) impact on “working only” in urban areas. It has weak positive (nonsignificant) effects on rural children’s “only schooling” and weak (but significant) positive effects on rural girls’ “only schooling.” Fathers’ employment has some negative effects (insignificant) on the urban children’s “schooling only” and “working only,” but a positive (insignificant) effect on girls’ “schooling only” and “working only.” The most striking result is for the rural area, where fathers’ employment has a strong positive (significant) impact on “working only” for children in general, while it has strong (insignificant) negative effect on girls’ “working only.”

Altogether these results appear to indicate that women’s and girls’ work are complementary inputs when home-care activities are excluded from the definition of work. The same applies for adult males and boys. This has important implications, for example, for the consequences of the impact of adult migration or deaths on the allocation of labor inside the household. It supports Ainsworth’s result that fostering-in demand for children increases as the number of adult females in the household increases.

In one sense it is obvious, but the most striking result is the number of cases where the changes in the exogenous variables have opposite effects for the pressure on girls’ and boys’ labor activities and schooling. Gender-specific social norms somehow must strongly influence the economic activities of the children chosen, including their labor.

Grootaert operates with a dummy for being poor that has a strong (and significant) negative effect on both “schooling only” and “working only” in the urban areas, and a strong negative effect on “combined schooling and work” (against the alternative “no schooling and either home care or working only”). That is, it must be positively associated with home care or idling. In rural areas the poor dummy has weak negative (insignificant) effects on schooling only, a fairly strong negative (significant) effect on working only, and even stronger negative effects on the combined schooling-work alternative. Altogether these results support the interpretation of the descriptive statistics in table 4—that there is no straight cause and effect from poverty to child labor in the African household economy. Child labor needs some complementary input often missing among the very poor.

Coulombe (1998) analyzes the same data using a third statistical method, a bivariate probit model where schooling and labor participation are the two simultaneously determined,

endogenous binary variables on which the impact of a host of exogenous variables is studied. Also in this case the reduced forms are set up without any attempt to derive them. The impact of a large number of exogenous variables is then studied. Many of the results confirm Grootaert's analysis.

However, his results do not support the impression of strong complementarity between labor inputs of children and adults of the same gender. For the rural areas one explanation may be that he includes land size, which may catch some of the apparent complementarity of the two forms of family labor. An interesting new exogenous factor introduced is religion. It appears to have some impact. The children of both Muslim and Christian parents work less than the children of traditional animists. The Muslim children participate less in schooling than the Christian children. Another new point is that while sibling effects in Grootaert's exploration are weak, here they become quite strong. In particular, having an older sister makes a child likely to work less and go more to school.²⁶

Before Coulombe (1998), Canagarajah and Coulombe (1997) had made a similar study of child labor and schooling in Ghana using a bivariate probit model to study their interaction. While the countries are roughly on the same economic level, school participation in Ghana is much higher than in Côte d'Ivoire, which influences the school-work interaction for the children. The school system of Ghana is much less demanding.

In Ghana the effect of income (measured by total expenditure) on the children's work becomes even more questionable (see table 5). Only the "schooling only" and "no school no work" categories are clearly influenced by income, the first in a positive, the second in a negative direction. It is likely that the last category contains the group of children with the lowest welfare levels.

26 In principle, and for policy applications, the most important result of Coulombe's research is the strong estimated negative correlation between the children's schooling and labor. Alas, it is difficult to believe in the significance of this correlation because of the way Coulombe has treated the data set. Somehow, the group of children who both do schooling and labor is practically empty in his descriptive statistics. This is difficult to believe. Although Coulombe should be expected to have a smaller group than Grootaert since he, for good reasons, deletes all children who were on vacation when surveyed, there should still be a good number of children who do both. And while the share of children who combine school and work is likely to be smaller in Côte d'Ivoire than in Ghana, where the school system is less demanding, the difference is too large.

Table 5. School and work of children aged 7–14 in Ghana, by expenditure quintiles
Percent

Expenditure quintile	Work only	School only	Work and school	“Idling,” non-GDP work	All
Lowest (1)	13.1	46.4	15.5	24.9	100.0
2	6.8	54.1	21.7	17.3	100.0
3	10.5	53.8	18.6	17.1	100.0
4	8.7	55.2	19.2	17.0	100.0
Highest	5.7	64.6	19.1	10.6	100.0

Source: Canagarajah and Coulombe (1997).

This impression is confirmed in the results from the statistical analysis, which found an inverted U-shape of the impact of income on child labor participation rate, peaking around a number just below median income. Independently, and based only on theoretical considerations, Andvig (1997) suggested an inverse U-shape for the realized amount of child labor as a likely shape of the impact of income on child labor in farming areas.²⁷

This does not imply that child labor performed in households may not be a significant child welfare problem in its own right, and related to poverty, but rather that the standard definitions of child labor are unable to catch it. The main reason is that it does not include activities that do not enhance GDP. In poor households with a labor-demanding infrastructure most of the children’s work will consist of this kind of work—carrying water, fetching wood, and so on.

Comparing the descriptive statistics from Ghana and Cote d’Ivoire shows that while the children’s work participation ratio around 1990 was considerably higher in Ghana (around 28 percent compared with 20 percent in Cote d’Ivoire) the average time spent working among the children who participated was much higher in Côte d’Ivoire, in fact two times as high. The hours spent on household work were roughly equal. Part of the difference in hours worked may of course be explained by various measurement errors, but that is probably not the whole story. The existence of such differences even at national levels strongly suggests that for comparing child labor problems across countries when household

²⁷ Ray (1999) confirms this lack of association between poverty and child labor for Peru, while he finds it for Pakistan. When he includes domestic work in the child labor variable, the association becomes weaker for Pakistan.

work is a significant part of the problem, the ILO approach of comparing participation rates only is much too simplified. Numbers that indicate the overall mass of child labor and its distribution across children give a better result.

The results from the inferential part of the statistical analysis show that in Ghana, unlike the situation in Cote d'Ivoire, the mother's education affects her daughters' education positively. The existence of a female head of household has the same effect. The Ghana study supports (weakly) the expected siblings effects. If the father is present in the household, his children tend to work less and go to school more, while the mother's presence increases both schooling and work. These effects are fairly weak, however. These results may be explained either by evil stepfathers or by input complementarity between the mother and her offspring. If household work is not included in children's work participation, there is otherwise no indication of such complementarity. Including household work gives the contrary result that if the number of adult females in the household increases, the work participation rates for the children decrease, a result more in line with common-sense expectations.

Religion has an effect also in the Ghana sample, where Muslim parents correspond with increased school and labor participation, but by less than the Christian faiths. Christian beliefs increased both school and labor participation compared with the traditional animist household in rural areas, but reduced labor participation in towns. Is this a glimpse of the Protestant work ethic transplanted to the African countryside?

The crucial part of Canagarajah and Coulombe's method is that they may study the effects of school and labor participation simultaneously. Since both variables are endogenous they may not ask whether child labor causes low school participation rates, but they may point to exogenous variables that work on both, for example, increasing child labor and decreasing school participation rates. Furthermore, they may estimate the correlation in the error terms to see whether there is an overall negative covariation. Such negative covariation was indeed corroborated in most of their specifications, but it was not very strong.

In Tanzania (Mason and Khandker 1998), the time burden of the children's work appears to lie somewhere between those of Ghana and Côte d'Ivoire. The difference between boys and girls is greater, however. Assuming that the size of the age cohorts 7–9, 10–12, and

13–15 are equal, average working hours for children not in school were 30.2 hours for boys and 38.9 for girls in 1993. This fits well with an earlier sociological study of Kenya where the children's working time ranged from 35 to 50 hours per week (Kayongo-Male and Walji 1984) when they were not going to school.

According to Mason and Khandker (1998), schoolchildren in the area studied in Tanzania spend roughly the same time on school and work together as the working children spend on labor, which indicates that schooling, from the household point of view, represents a considerable investment in unused child labor. For each boy between the ages of 7 and 16 who attends school, the household forgoes on average 22.2 hours of work a week and for each girl 27.5 hours. If the children themselves are indifferent between schoolwork and homework, their present welfare will hardly be reduced through this work.

It does, however, indicate that the children in this case are not willing or able to substitute much leisure when trading between schooling and labor. The descriptive statistics suggest then a clear negative covariation that is not so much in evidence when only participation rates are compared. No statistical test on their covariation is given in the paper, however.²⁸ In an earlier study from Botswana (Chernichovsky et al. 1985, 35), Mueller reports that children who do not go to school report more leisure time than children who attend school, about 6 percent more for boys and 10 percent more for girls.²⁹

In Ethiopia research has been done to explain the low school attendance of children there. When they were directly asked, rural students gave conflicts between work and school as the most important reason for dropping out of school (World Bank 1998, 96). More than 30 percent of the parents polled responded that this was the first reason why their children

28 An interesting study of such interaction is in Ravallion and Wodon (1999), but the authors are using Bangladesh data, which are not quite comparable because they can assume competitive markets for child labor. They study a kind of natural experiment, a food for school project that increases the attractiveness of school compared with labor. It has, however, an income effect that theoretically may increase the children's leisure. In that experiment, the probability of going to school increased by 17 percent for boys and 16 percent for girls and the incidence of child labor declined by 4 percent for boys and 2 percent for girls. In other words, it has the strongest effects on the group of "idling" children.

29 It should be noted that the share of leisure for girls, particularly for young girls, is probably seriously overestimated and their working activities underestimated. UNDP (1998) reports the opposite results for urban children in Benin, while for rural children the results are about the same as for Tanzania, that is, the amount of leisure is equal.

never attended school, and almost 20 percent said that this was their second reason. The low school attendance in the rural areas of Ethiopia makes the negative association of child labor and schooling in African countries stand out more clearly.

It will be important, not the least for policy purposes, to clarify whether the high child labor participation rates in most countries in Sub-Saharan Africa go together with low substitution elasticities for children's "leisure" vs. schooling and labor. As Ravallion and Wodon (1999) pointed out, only in this case is child labor in itself likely to cause poverty traps and make increased school attendance difficult. Otherwise other resource restraints are probably the cause of vicious circles of poverty. Given the task distribution between the genders in most African communities, making girls on average more busy, the possibility of being stuck in poverty traps associated with child labor is more likely for females if there is indeed lower substitution elasticity for them with their shorter leisure; they may have less inclination toward it.³⁰

This section has reported on representative empirical analyses of child labor in Sub-Saharan Africa carried out by economists. It has also presented some theoretical explanations of child labor as directed by households that are applicable in countries where household production is important. The focus has been not on how the children are managed, their working conditions, their love or hate of work, but on how much or how many. Few clues have been given to whether this form of child labor is harmful or helpful to the children or to the economies as a whole. The data do not make it possible to ascertain whether the work is harmful to the children, since they reveal next to nothing of their working conditions.

Welfare Economics of Family-Controlled Child Labor

Are children likely to work too much or too little when controlled by their parents? Until now, the question has only been systematically raised in a couple of papers by Baland and Robinson (1998a).³¹ Becker's (1981) study on the welfare economics of families presents points of view that are also relevant to the problem. Of particular interest is his

30 Canagarajah and Coulombe (1998) estimate the correlation between the error terms in their bivariate probit model for schooling separately for boys and girls and find very little difference, however.

31 Their papers are to be published in a condensed and somewhat altered version in *Journal of Political Economy*.

analysis of the conditions when transfers from one altruistic member of a family were sufficient for the family to pool income, generate Pareto-optimal internal allocations, and make selfish members behave nicely (the “rotten kid” theorem). Child labor is, however, not an issue for Becker, but the question of how much education should be spent on the children is.³²

The setting of Baland and Robinson is rather abstract. Therefore it is also applicable to African conditions, but they make no attempts to look at children’s role in the more specific welfare economic problems of African family systems.³³

A commitment failure

Baland and Robinson (1998a) analyze several situations where the household head is in control and the children belong to the family network. The basic framework is that decisions of the parents are made for two periods. In the first period the adults make all of them and decide how much the children should labor and consume. In the second period the children have also become decision makers and decide how they may dispose of their income. The length of the period is fixed and defined by the time parents are in complete control. Outside the family there exists a productive education system where children’s time may be used as an input in the first period, and the return of it will accrue to the children as human capital. It makes them more productive in the second period.

The adults’ welfare is a function of their consumption in the two periods and their children’s welfare in the second period. In the main model the children do not care about their parents’ welfare. The labor offers of neither children nor adults influence their welfare. Since the children have no leisure, the only possibility to increase their income above their parents’ is by reducing their work when they are children. Children’s consumption in the first period is given as a fixed cost and is not a matter of choice. No problem of shirking exists. If

³² He has some remarks about the advantages of family firms that may well also apply to children: “The Rotten Kid Theorem indicates that the beneficiaries are more likely to consider the firm’s interests than other employees and to refrain from shirking, theft, and other behavior detrimental to the firm” (Becker 1981, 195). These are also some of the reasons why households may prefer the work of their own children or children within a shared authority structure (extended families).

³³ Economists have started to question whether husband-wife interaction may cause inefficiencies in African agriculture, however, but the allocation of the children’s labor has not yet been brought into the plot. See Balsvik (1995), Udry (1996), and Fafchamps (1998).

the children are not working, they spend their time on education. As indicated before, that increases their labor productivity in the second period.

Both the children and their parents are working in the same technology units that transform their labor input into consumer goods. Production has unit scale elasticity, and there are perfectly competitive markets everywhere.³⁴ The children's and their parents' labor are perfect technical substitutes.

The parents may transfer some of the income in the first period—bequests—to be added to their children's income in the second period. They may also save and add to their own income in the second period. The children may or may not receive a share of their own wage income in the first period, but this is decided by the parents. The income that the children receive in the second period is fully under their control, however.

As in Becker, the linchpin of the analysis is what happens to the transfers. Note that there are two ways parents may transfer income to their children in the second period: either through direct monetary transfers, bequests, or through the children's spending their time on not working. By assumption, the economic value of one time unit spent on education in the first period is above unity. The maximization is performed by the parents. The children only adjust their consumption in the second period to fill up all income received. If in optimum the bequest hits its lower bound, zero, Baland and Robinson show that a non-Pareto allocation may result. The children may work too much in the first period.

Since the children dispose of their own income in the second period, the adults might not be sufficiently rewarded for not letting the children work. When the parents are either too poor or not sufficiently altruistic to leave the children any bequests, this would be the case. Then, if it was possible for the children to compensate their parents for not letting them work, the welfare of both children and adults might increase. To reduce child labor (and increase education) would be a Pareto improvement. This result is, of course, only valid in the case

34 These are, of course, not at all realistic assumptions in an African context, where production is mainly done within the household and where markets for child labor are likely to be missing in many places. As long as consumption and production decisions may be separated, these assumptions are fairly innocent and may be added to a number of other assumptions that are of a more technical nature that are needed to reach conclusive results.

when not working in the first period increases productivity “sufficiently” in the second period.

Note that this result does not hinge on any ordinary imperfection in the credit market, for making the parents invest too little in schooling and letting them labor too much. It is given by the decision structure in the family. The children are not allowed to make any decisions in the first period; hence they cannot make any credible commitments for the second period. They can only promise to do so in the second period, but that promise is not credible, because they now are in full control of their income, and they have no reasons to spend anything on their parents. Given this decision structure, there is no way that the children may commit themselves in the first period.

But why would this not be a problem also when there are positive bequests? Because the parents can first transfer income to their children in the second period by making them work less until the return of the two methods is equal. That will happen when the child’s wage rate in the first period is equal to the marginal return of the last hour spent in education. After that, monetary transfers will be more effective.

What happens if there is reverse altruism—that children care about their parents, may transfer income to them in the second period, and their parents still know their preferences and calculate their degree of altruism in their own maximization? The non-Pareto optimality might still occur if the parents’ degree of altruism is too weak or if the credit market is imperfect.

It follows from their model that the children work more the less altruistic their parents are and the lower their wages. The authors interpret that to mean that child labor is an aspect of poverty. An increase in the children’s wages, however, will also increase family income without similar clear effect on the family supply of child labor.

Lack of credit markets

If imperfections in the credit market exist so that the parents are unable to borrow in the first period, excessive child labor may also arise in situations where parents transfer resources to the children in the second period. These bequests would then be partly financed by the children’s own labor. This situation occurs when the parents’ preference for consumption in the first period is strong compared with the second period. When not allowed

to dissave in the first period, they can only increase their consumption in the first period by letting their children work more. Altruistically, they are willing to sacrifice part of their second period consumption by letting their children receive some bequests. In this case the excessive child labor could be avoided by a perfect credit market that would allow the parents to dissave in the first period.

If, however, the parents are sufficiently altruistic, if the children are not “rotten” and consider their parents’ welfare “enough” when they are allowed to make decisions, then child labor may not be excessive even in situations where the parents leave no bequests.

The families may not be expected to solve these inefficiencies themselves. Given some assumptions about technology, Baland and Robinson also show that a marginal ban (for example a reduction in the number of hours children are allowed to work each day or a reduction in their age) may be efficient in a general equilibrium context. The same will apply to a subsidy of education paid by taxes of the parents or obligatory schooling.

Read literally, the model presupposes a market for child labor, but it may be adapted to situations with household production.³⁵ In order to explain some of the empirical facts about child labor on African farms, it must, of course, be modified. For, example when a decline in the parents’ income increases the child labor supplied, it does so because it does not influence the marginal productivity of the children’s work. In farm households, the farms with more assets are assumed to have both higher income and higher marginal productivity of the children’s labor, so if there are some fixed costs of employing children from outside the household, there may be a less clear correspondence with poverty levels and the amount of child labor unless the model is modified. In addition, as the empirical studies showed,

³⁵ The assumptions needed are the standard assumptions applied for household models to allow the separation of consumption and production decisions. The children may move freely across households to have markets for child labor in a household economy. If the household is confined to employing only its own children, paradoxically some aspects of the situation analyzed by Baland and Robinson (and not presented here) may fit better, like the absence of shirking. However, it becomes difficult to believe that the children are completely free to dispose of their income in the second period when a household economy is based on an extended family system. At the same time it is doubtful that the authority structure assumed for the first period is likely to hold when the children are working for other monitors. These are both examples of situations where the second assumption for separation of the two types of decisions inside the household does not hold. This is not to imply any serious criticism of the model; it moves at a different level of abstraction.

child and adult labor appear often to be complementary inputs, not substitutes, as assumed by Baland and Robinson.

Child labor and fertility

In another paper Baland and Robinson (1998b) explore another possible inefficiency of a family decision structure that may arise when the household head also decides the number of children endogenously. In a similar way as for child labor, they argue that left to itself the family will choose to have too many children. The older children are unable to pay their parents not to have the last child. It is of special interest to note that within the framework increased child labor does not necessarily go together with increased fertility. To put it simply, if the productivity of the schooling is high, that tends to increase fertility more than child labor will.

Deaton and Muellbauer (1986) have shown that even in developing countries the economic costs of having children are so high (30-40 percent of household income) that the income resulting from child labor is not likely to be high enough to compensate (in Ghana children supplied around 5 percent of total hours worked, in Cote d'Ivoire around 10 percent). Combined with the valid arguments of Baland and Robinson, it is sufficient reason for doubting any simplistic causal chain from extensive child labor and too high fertility based on parents' economic calculation of the net value of increasing their child stock. A few case studies made from exceptionally transparent communities by social anthropologists (Blurton Jones et al. 1989, 1994) present evidence that extensive child labor allows for a nexus of high fertility-high labor participation rates, however.

Non-Pareto optimal allocation of risk

The Baland and Robinson assumptions about the family decision structure may also be applied to argue that the children shoulder too large a share of the family risk-taking by working too much in the first period.³⁶ The simplest way to see this is to reinterpret the children's income in the second period as the income net of the income loss due to the

³⁶ This section presents the argument that child labor exposes children to excessive risks. The characterization of children describes child labor as a way to cope with risk. Is this not an outright contradiction? To see that it is not, note that this section's model assumes that the family structure is intact. A more fundamental risk for a child will often be that its family protection will crumble. To cope with this risk in an uncertain environment, the child should learn to work as soon as possible.

fraction of children who have become disabled due to their labor as children in the first period. If they go to school or play, fewer will become disabled.³⁷ One of the reasons why schooling gives rise to increased human capital is that the human loss of this kind is reduced.

In the same way as before the children are unable to make a credible promise to pay their parents the insurance of not working. This will be the case even if it follows from this reinterpretation of their model that the adults will pay for their children's consumption in their first period as adults, in case they are disabled. (The consequences for the children's life in their second period as adults are not considered in this model; this would only have reinforced the argument.)

Systematic parent mistakes

Baland and Robinson have no discussion of the labor offer of either children or adults. The only inefficiency that may arise is the effects of the children's work on their schooling. However, much of the ethical intuition about child labor is about the labor offers. Is it likely that the children's labor offers become too high compared with the adults'?

Within a Samuelson type of family welfare function, each member will work until the marginal loss of the family welfare is equal to his wage. If parents and children have equal weights and identical utility functions, children should still work less than adults if their wages are lower. They are not identical, however. For example, evidence from experimental psychology indicates that time passes more slowly for children who perform work they consider boring (but may even pass more quickly for exciting tasks).³⁸ If only the boring tasks are considered, the parents underestimate the children's disutility of labor and make

³⁷ Baland and Robinson themselves point to the hazards of child labor in their introduction, and refer to Nangia (1987), who claims that one in three working children dies before reaching age 18. If this is true for India, such numbers are unlikely for African child labor performed in the households. However, it is well documented from traffic research in OECD countries that children have less ability to cope with risky situations. So the argument is relevant for all types of risky labor situations that children are encountering. The actual allocation of risks will depend on the actual dangers involved in the production process: what kind of crop, climate, use of pesticides, and so on. This argument should perhaps not be overstated if the alternative is uncontrolled play. Particularly for boys, that play might not be less risky. Comparing households with firms, again this is an area of comparative advantage for households. They will at least internalize some of this external effect. Parents will tell their children in which part of their fields there are likely to be snakes, which plants are poisonous, and so on. A later section will present an extreme case where the children do no work at all before 15–17 years of age because of the risks involved.

them experience higher marginal disutility of work than that intended. Questionnaires have produced evidence that parents underestimate the actual amount of time their children spend on work, particularly in recall data. This effect is demonstrated for the Philippines in Evenson et al. (1980). In both cases they are actually maximizing the wrong utility function.³⁹ Compared with the correct one, the children will labor too much. The same will apply to the Baland-Robinson head of household's utility function, except that the last type of mistake is unlikely, since the children supply their labor in the market.

Nonaltruistic parents

The normative assumptions applied until now have been rather uncontroversial. Situations have been discussed where welfare economics may reach clear answers, and where there are either possible Pareto improvements or some clear instances of misallocations that cause children to work more than intended. In the Baland-Robinson model the children have to consume more and labor less as the parents become less altruistic.⁴⁰ Would the rate of investment in human capital go down and, presumably, also the growth rate of the economy? Hence the more altruistic the parents, the better? This is not unconditionally a reasonable answer. Within the altruism range where there is no scope for Pareto-improving reduction in child labor, the children will reach higher consumption levels than their parents—a return to a classic dilemma of intertemporal allocation in economics.

Discussion of that possibility goes beyond the scope of this paper, but it points to a real dilemma: Is it right to sacrifice some of the children's future increase in production capacity by making them labor to maintain their parents' rate of consumption? The more efficient the educational system is, the larger is the efficiency loss if the parents do not allow their children to be educated, but the larger the difference in the parents' and the children's

38 In fact, children's experience of time is a quite complicated research area, where different aspects of the labor tasks may have different effects on experienced time. I believe, however, our presentation to be a fair, popular summary of the relevant research in psychophysics (see, for example, Arlin, 1986, 1989).

39 To claim that this is another case of a non-Pareto optimal allocation is somewhat tricky, however. If the parents got the true information, their utility would go down, and the children's stay the same. After the correct information has arrived, they will adjust so both their and their children's utility are raised. But compared with the solution of the uninformed maximization problem their utility may be lower. If so, the first allocation does not have a non-Pareto allocation.

consumption levels will be. How altruistic should the parents be? What is the optimal amount of child labor? Efficiency may pull it toward zero, fairness toward some finite positive amount.⁴¹ Note that inefficient school systems increase the amount of child labor that is acceptable on efficiency grounds while they lessen the strength of the fairness argument. In any case, in this world, where the parents make all the decisions in the first period, they may force their children to enjoy arbitrary small shares of family consumption and zero schooling.

Poverty may make altruism a norm of luxury, and, when combined with an inefficient schooling system, even an extremely high incidence of child labor might not cause any Pareto inefficiency. Other ethical criteria must be introduced or other real world situations outlined to judge whether reducing child labor in Sub-Saharan Africa would be important for the poor in the continent.

The Basu-Van model or the low wages trap

In a model developed by Basu and Van (1998) the parents are completely altruistic and withdraw their children from the labor market as soon as their own income exceeds a certain threshold.⁴² Unlike what happens in the Baland-Robinson model, the children's labor offer enters directly into the family welfare function. Nevertheless, excessive child labor in the Pareto sense may arise in this model too, but not in the single isolated family. It may happen as a result of the workings of the whole labor market.

If everyone is very poor, both the adults and the children enter the labor market. Since child labor and adult labor are near substitutes, the child labor pushes the adult wage rates down, which may get the economy stuck in a low wages–high child labor participation rate equilibrium. The same economy may, however, also reach another equilibrium where the adult wages stay high because they are high enough to make the altruistic parents keep their children out of the labor market. In this economy everyone is better off.

40 This relationship is an interesting, testable implication of the model. In the one bargaining model that introduces children as separate bargainers so far, Moehling (1997) predicts that the children's share of family consumption will increase, when they work, and she substantiates it with U.S. historical data.

41 In the Baland-Robinson model the altruism parameter is exogenous. It is reasonable to consider it as a kind of social norm where the parents are fixing it on the basis of what they expect the other parents are doing. Increases in average income levels are likely to move it up.

42 This behavior pattern does not have to be based on altruism. Chayanov-like income targets combine with an assumption that when the aim is reached, the least productive members of the household will be the first to withdraw.

Hence the child labor in the first equilibrium is not a Pareto-optimal situation, and economists would have no hesitation in applying policy against it—for example by banning it. In practical policy one should be careful not to assume that an economy with high child labor participation rates necessarily is stuck in a non-Pareto optimal equilibrium, however. If the productive possibilities in the economy are too poor, the Basu-Van model will predict a single high child-labor participation rate equilibrium. Forcing on it a ban on child labor will only force on it a deeper level of poverty.

While interesting and important for economies with a high rate of child labor supplied to private firms in the market, the low incidence of such child labor in Sub-Saharan Africa makes the possibility of the non-Pareto child labor trap remote at the moment. Given the indication of excess supply of child labor when jobs become available, the possibility may soon become relevant, however, and a question arises whether a ban on child labor—if implemented—will make the African countries stay poorer than their production possibilities warrant or if the ban may make them avoid the high child-labor participation rate trap.

Applied welfare economics

The only applied welfare economics study of African child labor (Canagarajah and Coulombe 1998) is from Ghana. Like the theoretical studies, the focus is on the interaction between schooling and child labor. The policy instrument that was assessed in the cost benefit analysis was the effects of giving a 10 percent income subsidy to children out of school. The benefits are the present value of the expected income increase of the children who now get schooling during the years they are in the labor force. The costs include the value of the subsidy, the increase in schooling costs due to increased attendance, and the income loss due to the decreased earnings of the children now going to school. That loss is valued at one-third of the earnings of an adult without education.

The difference between social and private return is built into the cost benefit analysis with a higher discount rate for the private net return. The final result shows a significant but modest social return. The cost to Ghana of having its present stock of 800,000 children not going to school is estimated at somewhat less than 1 percent of GDP.

Comparison of recent economic research on child labor in general and child labor in Africa in particular with a 1981 study (Rodgers and Standing) of the broad issues analyzed in

child labor to that date shows that a noteworthy narrowing of the research field has been taking place. The interaction of education and child labor is mainly the focus. Recent research has also been more professional. Data have been produced and published that make these phenomena amenable to modern econometric analysis. Baland and Robinson have shown that the problem may be studied by applying standard welfare analysis and possibly even be condemned without using any stronger ethical judgments than the notion of Pareto inefficiency.

Opening up for social anthropology

One of the reasons why standard welfare economics may be less helpful is that social norms are obviously important when it comes to children's work in the households. Standard welfare economics is not generally very helpful in determining which norms should be lifted and which should be introduced. There are exceptions, however. For example, Udry (1996) made a detailed microeconomic study of agricultural production in an area of Burkina Faso showing that the allocation of male and female labor input was inefficient across plots (the allocation of plots across genders was inefficient). Detailed studies of the allocation of boys' and girls' labor are likely to tell similar stories for many areas of Africa (see, for instance, Mason and Khandker's data from Tanzania), showing that shifting tasks to boys should improve efficiency. That is, if it is possible to change norms about what girls and boys should do, economic efficiency (and fairness as seen from an European point of view) should improve.

This should be possible, because rather rapid change in this area has already taken place. In some African countries, for example, when the colonial powers were established most domestic servants were boys, but they are now girls, a norm change traced for Zimbabwe by Grier (1994). This change was not politically engineered and might not be considered desirable, but it is important for explaining and evaluating the child work phenomenon in Africa.

Compounding the policy difficulties in this area is the fact that norms are likely to constitute systems. Changing one norm may cause changes in others in ways that economists are not accustomed to think about and where welfare economics is silent. Norms are also less likely to be directly influenced by conscious policy. Policy changes may have surprising

consequences.⁴³ This is actually an infant research area for economists, but so far relies mainly on contributions from social anthropology.

Social Anthropological Research into Child Labor in Sub-Saharan Africa

It would be wrong to claim that social norms have had the same theoretical status in social anthropology that constrained maximization has had in economics. It has been only one of several distinct theoretical frameworks applied. Nevertheless, it has been an important perspective almost forced on social anthropologists by their having to learn how to behave in societies that differ from their own before they can analyze them. Because they have been mapping household behavior in African countries for almost a century, social anthropologists have, of course, also collected much information about the children's behavior, including their work. Most of the information about children is buried in articles and monographs addressing other issues, a literature too vast for adequate survey. The studies that actually address child labor are few, and even fewer have an explicit comparative perspective. The comparative perspective is perhaps most pronounced in Bradley (1993).

Child labor and family task allocation

Bradley's work is related to the great effort made by a group of American anthropologists led by G. P. Murdoch to collect descriptions of behavioral rules from a large number of different societies in a standardized way. The descriptions were gathered in a data base, an "ethnographic atlas," that could function much like a museum of material artifacts (one version is Murdoch 1967). The approach was rather inductionist in spirit. The behavior patterns were compared in different, often random ways to discover empirical correlations that might then be used for different theoretical purposes. For example, estimates about the timing of the correlations of the behavior pattern might, for example, be applied to ascertain diffusion patterns across societies and time.

43 Bird (1996) reports on an attempt to make lone parenthood less desirable by limiting cash benefits. Policy makers believed that this would be achieved through two mechanisms. The obvious one was to make the choice of lone parenthood less attractive. The second was for the resulting decline in the number of lone parents to cause a decrease in the social acceptance of the state—to change social norms. According to Bird, the norm changed in the opposite direction from that predicted: lone parenthood became more acceptable.

In her study of child labor Bradley specifies 15 different tasks such as water carrying, marketing, land clearing, and harvesting. The population of 91 different societies, including 17 African ones, is divided into five groups, adult men, adult women, boys aged 6–10, girls aged 6–10, and children below age 6. Ethnographic evidence is then used to determine which task is done by which group and at which age the children start to do the different tasks. Certain tasks, such as large-game hunting and clearing of land, were done by adult men in almost all societies.

Bradley's main conclusions are:

1. Children tend to do the same tasks as adults of the same gender.
2. Children, especially younger children, do more of the adult women's tasks, and Bradley assumes this is because they occupy the same space as the women and women normally control the children's work and socialize them.
3. Some tasks normally are done only by children (such as tending small animals).

This implies that the more important the child-specific tasks are in the society in question, the larger the share of the total work is done by children. But more interestingly, the larger the share of total tasks that are assigned women, the larger the share of tasks are done by children, particularly by small children. Thus what girls and boys do is not simply a question of socialization to adult roles. The number of child-specific tasks and their importance and the number of woman-specific tasks and their importance are all influential.

Note what Bradley does here. She says that one kind of rules—task assignments for adults—determines another set of rules—tasks assigned to children. These rules, together with the actual distribution of the economic activities, to a large extent determine how much the children have to work in a given situation. Economists may like to think of it as analogous to an input-output system, where rules for task assignment are the input coefficients and the size of the economic tasks acts like a demand system to determine the scale of the labor activities allocated to the different groups. The setup is somewhat more ambitious, however, because the task rules may appear as both exogenous and endogenous variables. As just mentioned, the number and character of tasks of the women to some degree determine the children's tasks over and above straight socialization to adult roles because younger boys often do women's tasks.

The different task assignments must, of course, also be more or less appropriate for children at their various stages of socialization. For example, while children aged 6–10 harvest in 81 percent of the 91 societies, they plant in 64 percent, but only assist with land clearing in 33 percent of these societies. In comparing the workloads of boys and girls, the distribution of workloads between adult males and females is, of course, of major importance. When adult females carry many tasks, the effects on girls are double: they have to work much because they have to become adult women, the socialization factor, and they have to do much (like their young brothers) because their mothers are busy and they are nearby. Table 6 illustrates the difference between this type of explanation of child labor and an economic one.

Table 6. Children's time allocation in Botswana Percent

Activities	Boys		Girls	
	Ages 7–9	Ages 10–14	Ages 7–9	Ages 10–14
Animal tending	22.3	28.8	3.2	3.5
Trading	0.1	0.1	0.0	0.5
Crop husbandry	2.1	3.0	2.4	3.5
Wage labor	0.4	0.4	0.1	0.8
Hunting/gathering	1.2	1.6	1.6	2.6
Repairing	0.8	0.5	0.5	0.8
Child care	3.8	1.7	10.5	5.5
Water collection	1.6	2.3	4.8	6.3
Housework	2.8	4.4	9.5	15.5
Illness	1.5	1.5	1.1	2.0
Schooling	11.1	13.7	14.4	17.4
Leisure	52.3	43.5	52.0	41.0

Source: Chernichovsky et al. (1985, tables 3.5 and 3.6).

The data here are not rules for task assignment, but the children's actual time allocation, but they still show the importance of differences between the genders. Since animal husbandry is such an important part of Botswana's economy, boys and girls have about the same share of leisure.⁴⁴

⁴⁴ As noted before, girls' work is probably understated, particularly their child care activities, which are notoriously difficult to measure since they are so often undertaken together with other activities, including play.

What would happen if Botswana suddenly shifted out of animal husbandry and into specialized agriculture? Economists would tend to predict that the short-run consequence would be that some boys will be underemployed or unemployed, but after a while the gendered division of labor would be realigned so that boys would get new tasks and move their marginal productivity into line with the girls' in order to optimize the household welfare function.

A strict social anthropological prediction along Bradley's lines will show, however, that the rules for task assignment will remain stuck, and men's and boys' leisure will increase, while the women and the girls will increase their workloads. The norms regulating the gendered task division are moving slowly, will be propagated to new generations through socialization, and have a strong impact on observed behavior, even when leading to very inefficient results. Despite the roughness in both the theory and the statistical methods for gaining evidence, many will feel that the last theory is a better fit for the broad facts of African development, where so many tasks have been assigned to African girls and women.

According to Bradley, in summary, how much the children work is partly determined by social structure, rules about female and male tasks, and partly by the economic structure of the community in question, which determines the relative frequency of the different tasks that are appropriate for the children and how often they will apply. The scope of choice, the main focus of the economists' explanation, narrows and becomes less interesting.

It is a fact of African agriculture, in those areas where animal husbandry is not important, that the women do an extraordinary share of the tasks in the agricultural households. Hence, Bradley's research may supply a reasonable hypothesis for why the child labor participation rates in African countries are higher than on other continents.

Bradley's observations receive support from another type of research, presented in Munroe et al. (1984). This research group took a sample of 48 children from each of four "traditional" societies in Belize, Samoa, Nepal, and Kenya in the age group three to nine. Local investigators were used in assessing what was work in a sample of 30 observations for each child through an observation period of six weeks. They recorded the number of observations when they were working. Parents' activity was also recorded (but fewer

observations for each) and whether the children were in social interaction when they worked/did not work.

On average the children were working 23 percent of the time they were observed; already at three years they were working during 10 percent of the observations. Across cultures they found support for Chayanov's rule: as the number of consumers divided by producers increased, the percentage of observations where the children worked increased. This was probably mainly caused by the impact of infants and their effect on the children's work. Lonely motherhood was also significant (and would cause a high Chayanov ratio).⁴⁵

What supported Bradley's hypotheses was the fact that the African children (from the Logoli tribe in Kenya) were working significantly more often when they were between ages five and seven, but the difference became less after that. Munroe's results also supported Ainsworth's observation that children who were not residing with their natural parents were working more.

The main problem addressed in the Munroe article was, however, not work as such, but rather how children's labor became associated with specific interaction patterns with other children and with adults; how it contributed to socializing the children.

Child labor and socialization

First of all, like Bradley, Munroe found that the child's work activities were positively related to the mother's workload. Children's labor activities caused more frequent rejection responses on the part of parents and were associated with more frequent responsibility responses on the part of children than were other types of child behavior. In other words, child labor was a particular way of changing the child and adapting it to the environment, a way of socializing the child.

A striking difference between the economics and social anthropology literature on the subject of child labor in Africa is that this major theme in anthropology is practically not dealt with at all in economics. The central part of economics deals with the choice of

⁴⁵ It is worth noting that in this type of research female households are clearly measured, while in the large surveys, the measurement errors here are probably so large that the study of the impact of single female household heads is of less value. Hence the result shown in Munroe et al. is important, although the authors' statistical procedures are not transparent.

economic agents with given preferences. Analyzing situations where these preferences are deliberately changed or changed endogenously as the outcome of interacting systems of economic variables appears often too complex to be handled with the analytical rigor economists normally demand of themselves. Moreover, the subject itself may be said properly to belong to psychology. Often the only social scientists on the spot, anthropologists have not shared these inhibitions against scientific transgression, and socialization has become their major issue in their analyses of child labor.

While Bradley's study is wholly based on other anthropologists' fieldwork, Munroe et al. (1984) have collected data from field observations in different societies, but only quick and designed ones. Neither has done the long, thorough fieldwork, staying in a community for longer periods and participating in its affairs for their studies on child labor, that characterizes much of the field's best empirical research. Only a few major studies have focused on children's work of this kind, and all have socialization as a major theme.

One (Bock 1998) almost wholly addresses the problems of socialization and skill acquisition.⁴⁶ Bock studies two widely different communities in the same area of Botswana, but each inhabited by different tribes. In one, A, there is hardly any cash economy and the main livelihood is farming, some animal husbandry, and hunting/fishing. There is no store in the community, and a car was seen once every second week. Cash was mainly received through remittances; about 20 percent of the men were working outside the community, temporarily migrated. The children were doing a wide set of tasks. The workload for the boring tasks was slowly increasing with age.

An interesting observation made by Bock (1995) is that within the set of traditional activities, there is a trade-off similar to that observed in the choice between labor and education: the parents may allocate their children's time to simple tasks where they give immediate output, or they may assign the children more difficult tasks where the children's output is low or almost nonexistent but where there is an important training component. Children who are allowed much work of this kind become more productive as adults. Bock claims that in practice the child's sibling status is important. The fewer siblings it has, the

more will it be forced into the boring tasks, and the less likely is it that it will receive formal schooling.⁴⁷

Among the tasks of the first kind is the work that girls are doing in processing millet, a demanding and boring task. No children below eight are doing it, but from then on the time girls have to spend on it increases gradually with age. At age 12 they spend an average of 40 minutes a day only on this task; the time increases to 50 minutes when the girls are 15, and 60 minutes when they are 18. Adult women at age 30 spend 97 minutes a day processing grain.

At the other end of the spectrum is hunting large animals. This demands long learning periods and traditionally men are not competent at it before their mid-twenties.

In community A, only 20 of 120 children are attending school. They return home every weekend, walking 30 kilometers through the bush.

The other community, B, is dominated by wage labor for the tourist industry (safaris). Both women and men are working for wages that are comparatively high. The work is dangerous, however, and people are killed (by crocodiles, buffaloes, and so on). They do little food production. All children above seven years old (81 children) attend school, but they can only return home during school holidays. When at home they do little work. This community used to be a more specialized hunting-gathering society than A and had little agriculture. The inhabitants' present affluence, earned as wage laborers, is based on skills and knowledge of the fauna acquired during that period.

Bock tried to test the skill level for traditional tasks between the two communities. He found that although the girls in B were tested as stronger than the girls in A, their productivity when doing the traditional millet-processing is lower, particularly among the younger girls. Despite their parents' specializing in game observation, the children of B have lost most of the knowledge of local wildlife and scored much lower than the children in A

⁴⁶ I have not had access to the Ph.D. dissertation (Bock 1995), but only a more popular summary (Bock 1998).

⁴⁷ Here Bock points toward an explanation of why larger families may have higher schooling participation rates than smaller families in some African countries, if they are not financially constrained. Financially poor families are likely to be more constrained with more children, and here larger families are likely to have lower participation rates. In a sample that contains drawings from both these populations, the

when tested about the local fauna. The parents in B have been unable to transmit that knowledge since their children are at school and they are at work. Despite the fact that they themselves have a better livelihood than most people in Botswana, they do not want or are not able to transmit the necessary knowledge to their children. They consider their profession too dangerous. They would rather let their children be prepared for modern life through formal schooling than make them work for long hours in their local households.

The paradox is that more investment on the part of the parents would give less schooling and more child labor. This is, of course, an exceptional situation where the transmitting of parents' skill demands a long learning period, during which children also would have to work (but with low output).

Will the work of the children in A be harmful to them compared with the schooling of the children in B? It is rather obvious that the answer to that question relies on the macro development in Botswana. It is not only a question of what happens in A and B.

“Dance civet cat”⁴⁸—or, are girls exploited in African families after all?

Unlike the other studies that portray child labor in traditional African households as a kind of socialization into necessity, Reynolds (1991), giving a very detailed description of the children's labor activities in a poor village in northern Zimbabwe, paints a harsher picture. The distribution of labor is blatantly unfair. When the mothers are forcing their daughters to work more than they feel like, violent punishment is routinely meted out in an otherwise nonviolent population.

Reynolds tries to see life in the village from a child's perspective and supports her observations with detailed statistics about allocation of the children's time. She observes 12 families, including 69 children. Her sample of children to be studied included less than 50 in the relevant age group, so the possibility for statistical inference is limited. Nevertheless, both her results and her methods are interesting.

presence of siblings is likely to show a weak influence on the school participation rate while it has strong effects on both its sub populations, but with opposite signs.

48 The title of Reynolds's (1991) monograph on child labor in a Tonga village in Zimbabwe. The title is taken from a children's riddle that plays with the idea of children as controlled by parents and at the same time uncontrolled (Reynolds 1991, xv).

She applies four different methods for recording the children's time allocation.

1. *Peak labor records*: the researcher makes conventional observations during harvests activities and the like and records all labor performed by the different family members.
2. *Instant records (IR)*: the researchers perform random sampling of persons and meeting times with pre-specified persons and record what the person in question is doing at the designated time.
3. *24-hour recall (24R)*: each person in the sample was visited once every eight days and asked in detail what she had done during the past 24 hours. This is the method closest to the one applied in the larger statistical living standard surveys.
4. *Observation (O)*: researchers observe for two-hour periods, during which the activities of all present are recorded.

As might be expected, the methods give different impressions of how extensive the children's work burdens are. For example, while O made girls work 95 percent of the time recorded and boys 60 percent, IR made girls work 65 percent and boys 24 percent of the time, and 24R gave 35 percent and 11 percent. Since 24R is the closest to the one applied in the living standard surveys, while IR may in principle be the most valid,⁴⁹ Reynolds' results suggest that child labor is likely to be underreported in those surveys.

The degree of unfairness in the labor allocations are indicated in a 24R result, which shows that during the busier seasons women worked on average 8 hours and 27 minutes and men 3 hours and 32 minutes, while boys work 1 hour and 7 minutes and girls work 4 hours and 49 minutes. That is, the girls are working significantly more than adult men. Moreover, the spread in girls' labor activities is large: some work as little as boys, others as much as their mothers. The data seem to indicate that the girls are not introduced to a gradual increase of their workloads as in Botswana, but that the increase is rather stepwise: a large minority of the girls are treated as small children and given some freedom to play, while the rest had

⁴⁹ As pointed out by Reynolds herself, since she is a woman she had less access to men's and boys' activities, so there is a female bias in her observations.

approximately the same workload as adult women. The different families start to treat their girl children as adults at very different ages, however.

Of the survey-based studies, those from Botswana and Ghana (and a forthcoming one from Benin) do not support the impression of wide gender disparities, but the ones from Tanzania and Cote d'Ivoire do to some degree.⁵⁰ There are also other field-based studies that indicate that the variation is, indeed, considerable and that support Reynolds' concerns.

Recall that Reynolds (1991) with the IR method found that in her poor Tonga village in Zimbabwe, the girls spent 65 percent of their waking (?) hours on labor while the boys in the same age group worked only 24 percent of their time. This is an extreme result, but in a similar study Wenger (1989) observed that in the age group 8–11, girls were working 51 percent of the time (daylight hours), while boys worked only 26 percent. Wenger's method was to visit the compounds at random intervals, watching pre-assigned children, drawn randomly from a list; that is the same method as the IR of Reynolds' study. This study again confirms that when domestic work is included, girls work considerably more than boys in rural Africa, except for the pastoral societies, where the workloads of boys are heavier than elsewhere.

Even inside the single family the distribution of labor is often strongly skewed, not only along gender divisions, but also between the individual children. Reynolds (1991) has some detailed data on the matter. The household survey-based research also provides some indirect, circumstantial evidence. Lloyd and Gage-Brandon (1994, 303) carried out an empirical study of fertility and schooling in Ghana; their findings show that each additional younger sibling significantly increases the probability for an older girl that she will drop out of school, but the same is not true for boys. If the observations of Mason and Khandker (1998) from Tanzania can be generalized, these dropouts imply increased child labor for the girls.

⁵⁰ Using the numbers for weekly working hours from Grootaert (1998), which is based on a survey, and assuming that only 12 hours a day are available, I calculate that 38.76 percent of the girls' time is spent working while only 17.61 percent of the boys time is spent that way. This fits well with Reynolds's results from the 24R-method. A corresponding calculation from Ghana gives 15.74 percent for girls and 15.66 percent for boys, however. The great difference in the result for girls between Ghana and Cote d'Ivoire is puzzling.

Bledsoe (1994) indicates how inequalities in the formal labor market may reinforce the unequal distribution of labor between the children inside the household, as long as the formal schooling system is perceived as the main method of rent-seeking for reaching the upper-end jobs. Then it pays for the families to pamper the academically promising children and let the rest of the children do the work in the homesteads. As societies change, so does the socialization of their children.

While rational from an economic point of view, this practice often gives rise to considerable emotional strain among siblings that may make their labor more harmful than would otherwise have been the case. The close interconnections between emotions and economic activities are both a strength and a weakness of the family monitoring structure that manages most of the child labor in Africa.

Child labor, socialization and fertility: some observations from hunter-gatherers

Even in the countries of Sub-Saharan Africa, hunting-gathering peoples are tiny minorities, and thus less interesting from a macro-oriented point of view. Nevertheless, they have been extensively studied by social anthropologists, who have brought up ideas about the causes and consequences of children's labor in these tiny, transparent societies that may supply hypotheses about causes and consequences of child labor in other, larger societies.

Traditional Kung society in Botswana versus Hadza in Tanzania.

Kung is a well-known tribe of hunter-gatherers living in the Kalahari Desert. The main subsistence activity is collection of fruits and nuts. Observations from their life were an important source of inspiration for Sahlins' theory of hunter-gatherers as "the original affluent society" (see Sahlins 1972), in which the adults work only a few days in the week and the children almost not at all. Sahlins constructed a theory of why adults in general did not have to work long hours in these societies. An obvious implication of it was that children should also do little work.

That children work little in the Kung tribe is well documented. Draper and Cashdan (1988) report, using random observations of children aged 4–14 in daytime, each observation lasting 10 minutes, that girls were working 6 percent of the recorded time, while boys were working 2 percent. Children were almost never going out on their own, foraging, but stayed in the camps until they were at least 15.

This implies that their mother has to collect and carry all the staples needed to feed themselves and their children. The food is far away from camp, and they often have to walk in extreme heat. They bring home more than 58 percent of the calories reaching the camp. They bring their smallest children with them, which implies that the older children have light child-care responsibilities. The children's weaning age is three years.

Although several adults are usually present in the camp at all times, the recorded interaction between the parents and their children is much more intense than between a child and other adults. The father also has a clear responsibility to assist in feeding his own children. The death of the father decreases his children's survival probability significantly (Blurton Jones et al. 1994).

Another important characteristic was the low fertility of Kung, with an average birth interval of four years (Blurton Jones et al. 1989).

The Hadza situation is different. The food is not far away, and the children start to work foraging at an early age. When they are five years old they are able to provide about half of their own calorie intake. They spend considerable time working, but no precise and comparable time allocation budget for the children is published. When they are two-and-a-half years old, they are weaned and left to the care of older children.

The spaces between each birth are shorter, the Hadza have more children, and more children survive. The children are treated more harshly, field observers claim, and the children are ordered around more by their mothers and by other adults. The death or disappearance of the father has no influence on the child's survival probability, and divorce is very common.

The key factor in explaining the large difference between these two societies is the different conditions for socializing children to work. Kung children are not sent out to work because the distance to food, the heat, and the difficult terrain make their labor too risky and the output too low. For different reasons their position in the family is similar to the present situation of children in the OECD countries.

The key restraint in the Kung economy becomes the women's carrying capacity. If they have too many children, they are overloaded, and the children's survival probability

goes down. By not being able to labor, children become expensive in this society. The environment does not give much scope for a population increase.

Hadza children have easy access to food, but that does not make their life softer. They have to work more, but in this case it does not improve their bargaining position, and they are treated more harshly. They become less expensive, and in the high fertility environment they become more expendable.

Traditional African agriculture shares many characteristics of the special gathering environment of the Hadza, and it seems to reflect many of its characteristics: a social nexus of high fertility and a high child labor participation rate combined with a fairly high children's productivity when compared with the adults'. This finding suggests that high fertility may give rise to high child labor participation rates, while the children's ability to cover a large share of their expenses at an early age contributes to the high fertility.

Seen from a purely economic view, even among the Hadza, having a child is not profitable, and child labor may not wholly explain the fertility rate. It may, however, reduce the optimal spacing time between births if the maximand is the number of surviving offspring.

Bush Kung versus sedentary Kung.

The Kung described in the preceding section were a hunter-gatherer people living in the bush. Most Kung bushmen now live in small sedentary units doing agriculture. Anthropologists have studied what happened during the transition (Draper and Cashdan 1989). The adults, particularly the women, became busier. The interaction between adults and children became sparser, while interaction among the children of the same gender increased. The children started to do significantly more work, girls more than twice as much and boys more than six times as much,⁵¹ and their activities became gender segregated. The boys went away from the compounds, while the girls stayed closer to home. The families were still poor and could not yet afford cattle.

⁵¹ Their activity patterns were studied with the same method, random ten-minute intervals.

Draper and Cashdan explain this change in behavior mainly as having been caused by the changes brought about in the children's socialization environment: the adults now can let them be freer; furthermore, they need their labor input. This may not be the whole explanation, however. Girls and boys in the bush camps were treated equally. Why now suddenly turn to different tasks? Innate different behavior propensities may, of course, be one possibility. More likely is a copying of the task allocation norms of their neighbors.

Not all norms are equally invariant to changes in the environment and thereby useful in generating explanations. How could the bushmen's norms for their children's activity evaporate so quickly, while the norms telling boys and men to avoid household tasks have shown themselves to be robust against adverse economic developments?

Child Labor and Social Norms

Traditionally some social anthropologists used to borrow from the economists' choice perspective. If any interaction took place between the academic disciplines, it was mainly in one direction. This is about to change. One of the key concepts, at least in several of the many diverse directions in sociology and social anthropology, is social norms. Until recently most economists did not consider the study of social norms a fruitful path to understanding. At a general level this is about to change. Economists like Haavelmo and Akerlof started to explore their analytical possibilities. Today there is almost an explosion of theoretical studies.

Closer to the subject of this paper, Agarwal (1997) has urged that the role of norms should be brought into the study of household allocation conflicts, and Kevane (1998) has applied norms and norms about norm deviation in a study of intra family allocation of female labor power in western Sudan and a village of Burkina Faso. So far I have seen no attempt to use norms in this way to explain the variation in child labor across communities, but Basu (1999) made a brief sketch.

It is obviously an important inroad. It will prove almost impossible to explain the great difference in tasks and in total working hours between girls and boys in many African communities without invoking social norms as behavioral guidance, or, for that matter, to explain the sudden decrease in children's work at home in most OECD countries. Neither

differences in marginal productivity of boys and girls nor a declining set of tasks at home will suffice.

Observing that boys work less than girls in most African households and then accepting that this happens because the norms tell them so is too simple, however. This might be done with almost any kind of behavior. As Elster (1989) pointed out, norms need sanctions, and sanctions need someone to shoulder their costs of implementation. This is an important part of a likely explanation of why girls work more. When boys are allowed to leave the household, they are more difficult to monitor, and to mete out sanctions to them becomes more costly for the mother. Their genetic dispositions may also make them more unruly and harder to discipline on average. So societies that have left the largest number of tasks for women, including that of sanctioning children, will tend to make the girls work more because doing so reduces the monitoring costs for their women.

There is wide space for moving in different directions. As Basu (1999) pointed out, while the introduction of social norms may appear analytically trivial, these norms are clearly empirically important determinants. It is also difficult to imagine that the child labor participation rates in Africa can be reduced in the short run without any major changes in social norms. So a difficult policy question is whether or how to change norms.

Normative considerations when social norms determine child labor

One possibility of combining the norm-and-decision perspective is the simple one that Akerlof suggested and Kevane (1998) applied to African adult female behavior. That is to consider the amount of child labor supplied for a given age and sex as guided by social norms and to include deviation of labor actually supplied from the norm as a negative argument in the family welfare function. When norms loosen, larger deviations in both directions may be assumed. In many areas stronger sanctions against girls may be expected when there is deviation from norms, since they are less costly to implement and girls' behavior is more circumscribed by rules. Whether this will cause larger or smaller differences depends on the direction of norm change and the economic forces.

The norm change may move in only one direction; telling, for example that in modern families children should go to school, not work. It is difficult to accept for fairness reasons the norms that regulate girls' economic activity, but they may be easier to change than the

social norms that regulate males' work tasks and income support duties in many African communities. Let us now say that the norms for girls' productive duties loosen due to some modernization norms. In practice these norms will have to interact with the older ones, and the outcome may be difficult to predict. Will the consequence simply be that the girls work less, and boys and adult males more? Or will the consequence be less food for girls, earlier marriages, and early expulsion? More knowledge about the interaction between norms within norm systems and the interplay between social norms and the actual behavior is needed to safely predict in this area.⁵²

Conclusions

This paper has presented recent research about child labor in Africa. It has shown quite clearly that most of that labor is taking place in the large African household sector. Much of it is probably unnecessary in the sense that with a different and fairer allocation of the tasks, girls' workloads could be easier without causing a decline in production. It is also probably an inefficient allocation of the children's time between labor and education in the wide sense, even in areas where schooling is no alternative.

The research has not conclusively shown that the great bulk of this work is really harmful to the children, that it is labor according to our definition. At this time it is impossible to predict whether it is better for African children to work hard or go more to school without knowing what will happen in the future; whether the African economies will grow in ways that will make present education productive. If not, the allocative reasons for not letting children work become less compelling.

In other words, when policy makers need to decide whether labor activities should be reduced and school activities increased among the children in the real world, where bewildering sets of norms and institutions are operative, one of their value premises will have to be that a modern economy that can take advantage of current technological knowledge is what African societies really want their children to build.

⁵² The game-theoretic literature of norms indicates the possibilities of a wide number of equilibriums, perhaps supporting the frequently held notion among social anthropologists that local communities are like a paper card house, where even minor external interventions might upset it and destroy the society they have learned to become fond of. A major point in this literature is how difficult it is to predict the outcome of planned norm changes. See, for example, Bird (1996).

At all times, however, many heads of household will not be considering the welfare of their children. Since it is difficult to leave one's own family, even in an African context many children will be stuck with really harmful work burdens. Even child work that is family controlled raises good reasons for serious concern.

This paper has focused on family-controlled child labor, which is likely to be the major form of child labor in Sub-Saharan Africa. Reynolds observes (1991, xxxi) in the case of the traditional Tonga people (north Zimbabwe):

The freedom of the children lies in the fact that once old enough to move about they have a choice in the matter of their residence and thus of their guardian. The Tonga say that a child must be permitted to decide where it will stay since otherwise it will cry that it is being treated like a slave, whereas it is a free person. . . . Even if both parents are still alive and living together, the children may still take themselves off to live with other relatives. Their parents have no right to curb them. . . . The right to self-determination among men, women and children is a deeply held Tonga value.

In many parts of Africa there exist similar traditions for children's leaving or being expelled when the conditions warrant it. A follow-up study will look into child labor that is not family controlled. Here intra household bargaining becomes more important as well as the child's characteristics as an economic decision maker and his or her change with age. While it is a smaller problem than family-controlled child labor, it is also a potentially more serious one. The freedom for the children of the isolated Tonga village to choose parents might become the desperation of children isolated from their families on the streets of Nairobi or in the armies of Sierra Leone.

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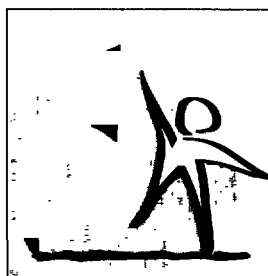
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Summary Findings

This is a review of research on child labor in Sub-Saharan Africa. It focuses on child labor taking place in the household and controlled by relatives of the children since this is the most extensive form of child labor in African countries. It is also the form of child labor that is the most difficult one to appraise from a normative point of view. Subtle trade-offs between schooling, leisure and poverty across generations may be involved. Hence, the paper emphasises welfare economics issues pertaining of child labor.

Another feature of this study is that it seeks to survey not only the economic research, but also research from other social sciences, particularly social anthropology. The social anthropological studies deal with an aspect of child labor so far less adequately dealt with by economists — the relationship between their labor and their socialization; how certain types of labor and education may give rise to different preferences to the children as adults.

A major, but tentative conclusion of this survey is that the relationship between poverty and child labor is less close than normally assumed in the policy debate.

HUMAN DEVELOPMENT NETWORK

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